



Date: June 9, 2004 Planning Commission Meeting

Item No.

## MILPITAS PLANNING COMMISSION AGENDA REPORT

Category: Public Hearings

Report Prepared by: Troy Fujimoto

Public Hearing: Yes: ☒ No: ☐

Notices Mailed On: 5/28/04 Published On: 5/27/04 Posted On: 5/28/04

**TITLE:** USE PERMIT NO. UP2004-9

**Proposal:** A request to locate a telecommunication antenna facility, disguised as a 40 foot high flagpole and accompanying ground equipment, at Rancho Junior High School

**Location:** 1915 Yellowstone Avenue

**APN:** 088-24-005

**RECOMMENDATION:** Approval with Conditions

**Applicant:** Cingular Wireless, 4420 Rosewood Drive, Building 2, 3<sup>rd</sup> Floor, Pleasanton, CA 94588, attn: Andrew Miner

**Property Owner:** Milpitas Unified School District, attn: Karen Allen, 915 Sequoia Drive, Milpitas, CA 95035

**Previous Action(s):** None

**General Plan Designation:** Single Family Low Density

**Present Zoning:** R1-6, Single Family

**Existing Land Use:** School

**Agenda Sent To:** Applicant & Owner

**Attachments:** Plans  
Project Description/Letter from Applicant, dated April 2004  
Photo Simulations  
Telecommunications Questionnaire  
Power Density Report, dated April 2004  
FCC License  
Build-out map  
Alternative site analysis  
Existing and proposed coverage maps

PJ#2368

\* 1

## **BACKGROUND**

The project is located at 1915 Yellowstone Avenue at Rancho Milpitas Middle School, located north of Landess Avenue and east of South Park Victoria. Rancho Milpitas Middle School opened in November 1967. The school is located within an existing single-family residential neighborhood.

## **THE APPLICATION/PROJECT DESCRIPTION**

The application is filed pursuant to Title XI, Chapter 10, Section 57.02-13 (Conditional Uses, Additional Uses Permitted – Public utility and public service use or structure). The applicant is requesting a use permit to locate a 40-foot high telecommunication antenna/monopole, which will be disguised as a flagpole, at the front of the school's multi-purpose building with associated electronic equipment cabinets located behind the flagpole adjacent to the building.

### **Site Layout**

The location of the monopole and equipment is on the northeast portion of the site with the parking lot to the north and other school buildings to the east and south.

## **ISSUES**

### **Use Permit Findings**

Any approval of a Use Permit or Use Permit Amendment, requires that the Planning Commission make the following findings:

1. The proposed use is consistent with the Milpitas Zoning Ordinance.
2. The proposed use is consistent with the Milpitas General Plan.
3. The proposed use, at the proposed location will not be detrimental or injurious to property or improvements in the vicinity nor to the public health, safety, and general welfare.

The following report explains how the proposed project, as conditioned, is able to satisfy these findings.

### **Conformance with the Zoning Ordinance**

The project as proposed conforms to the Zoning Ordinance. The Zoning Ordinance, Section 57 (57.01 (b), 57.02-15, and 57.03-5) allows for the proposed use to be approved in this district if it is deemed essential or desirable to the public, suitable to the site, and not detrimental or injurious to properties in the vicinity. The proposed site of the antenna/monopole is at the front of a school, in the middle of a single-family residential area. The monopole will be disguised as a flagpole, complete with a brass ball at the top and an American flag. This is appropriate with any school as flags are common at most school campuses. The associated electronic equipment/cabinets will be in a new enclosure, located behind the flagpole, which will screen the equipment from surrounding viewpoints. In addition, the facility will provide enhanced coverage for Cingular cell phone users and will prevent dropped calls.

### **Conformance with the General Plan**

The project is consistent with the General Plan. By providing for alternate telecommunications services for the conduct of commercial and personal business without creating aesthetic disharmony, it promotes a highly amenable community environment, in keeping with Guiding Principle 2.a-G-1.

It is also consistent with Implementing Policy 2.a-I-1. The project will foster community growth through beautification of existing and future development. The project involves installing a new

\*1

flagpole at a school that currently has none, and locating the electronic equipment in an enclosure to screen from views.

### **Neighborhood Compatibility and Visual Impacts**

Overall, staff was pleased with the applicants effort to propose a stealth design for their monopole. Staff felt that there were still some improvements that could be made to make the flagpole better blend with the environment and look more authentic. Because the school does not currently have a flagpole, this proposal would also benefit the school and foster patriotic pride as a flagpole is appropriate to any school. To add a feeling of authenticity, *staff recommends*, the applicant add a proportional brass ball at the top of the flagpole.

The applicant is also proposing an enclosure adjacent to the existing multi-purpose building. As proposed the enclosure would be chain link with slats. Staff's experience with this construction is that it does not last long and the slats will often break apart, causing the enclosure to have a less than attractive appearance. In addition because the multi-use building has a solid construction, *staff recommends* the enclosure be of cmu (concrete masonry unit) construction, painted to match the existing building, this will better blend with the building and provide a longer life to the enclosure.

Staff has received phone calls in regards to the proposed project. Concerns raised included the impact of the facility onto household electronic products including telephones, televisions, cable, internet and the like. After discussions with the applicant, based on their knowledge of the technology and from their experience from other locations, it should not impact any operation of household electronics. Other concerns included visibility of the facility. However, the antennas are inside a flagpole and the ground equipment will be screened from views.

### **Radio Frequency Emissions:**

Federal law preserves the City's authority to regulate the placement, construction, and modification of personal wireless service facilities (47 U.S.C. 332(c)(7)(A).) However, federal law does impose a limitation on this authority in the area of radio frequency (RF) emissions. The City is prohibited by federal law from regulating the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of RF emissions to the extent the facilities comply with the Federal Communications Commission's (FCC) regulations concerning such emissions. (47 U.S.C. 332(c)(7)(B)(iv).

The FCC has established guidelines that place limits on human exposure to RF fields generated by personal wireless service facilities. These guidelines have been endorsed by the U.S. Environmental Protection Agency and the Food and Drug Administration. The FCC requires all personal wireless facilities to comply with these guidelines.

The City, however, may still verify that applicants are in compliance with the FCC's guidelines. Therefore, the City requires applicants applying for use approval for any telecommunications device to submit a power density report. This report is reviewed by the City's Telecommunications Advisory Commission to ensure compliance with the FCC's guidelines. To the extent that an applicant's facilities, as proposed, are not in compliance with the FCC's guidelines, the City may require the applicant to make appropriate modifications to the facilities to ensure compliance.

### **Telecommunications Commission Review**

The City of Milpitas Telecommunication Commission reviewed this project on May 17, 2004. Comments and concerns raised by the Telecommunication Commission were in regards to adequate signage in regards to safety and signage warning people of the presence of a monopole at this location

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and some minor modifications to the telecommunication questionnaire. The Telecommunication Commission recommends approval of the proposal by the Planning Commission.

### RECOMMENDATION

Close the Public Hearing. Approve Use Permit No. UP2004-9 based on the Findings and Special Conditions of Approval listed below:

### FINDINGS

1. As conditioned, the proposed antenna/monopole at this location will not be detrimental or injurious to the surrounding development nor to the public health and safety, as reviewed by the Telecommunications Commission Committee in regards to equipment and safety issues.
2. As conditioned, the proposed use meets the intent of the General Plan and Zoning Ordinance by providing for alternate telecommunications services for the conduct of commercial and personal business without creating aesthetic disharmony at the site or impacts on surrounding development.
3. As conditioned, the project will not result in any significant visual or aesthetic impacts because the proposed antennae/monopole is visually disguised as a flagpole and enhanced with additional landscaping and the associated electronic cabinets are concealed from view.
4. The project is categorically exempt from further environmental review pursuant to Class 3, Section 15303 – “New construction or conversion of small structures ... installation of small new equipment and facilities in small structures”.

### SPECIAL CONDITIONS OF APPROVAL

1. This Use Permit No. P-UP2004-9 is for a telecommunications antenna facility consisting of a 40-foot high monopole at 1915 Yellowstone Avenue and associated electronic equipment and cabinets inside a new enclosure as shown on approved plans dated June 9, 2004, except as may be otherwise modified by these conditions of approval. Any future addition of antennas or modification to approved plans, shall require further review and approval by the Milpitas Telecommunications Commission and Planning Commission. (P)
2. Any change in any dimension or location of the proposed antenna, cabinets, and enclosure from that shown on the plans approved June 9, 2004, shall require an amendment to this Use Permit, which will require a noticed public hearing. (P)
3. This use shall be conducted in compliance with all appropriate local, state and federal laws and regulations and in conformance with the approved plans. (P)
4. Prior to any work, the applicant shall submit revised plans that reflect the flagpole concept with a proportional gold ball at the top of the monopole. (P)
5. Prior to any work, the applicant shall submit a revised plans to the approval of the Planning Division that show an enclosure of cmu (concrete masonry unit) construction, painted to match the existing building. (P)
6. Prior to facility installation, plans shall be submitted that show how the project complies with the following requirements (F):
  - a) Approved access shall be provided to the equipment enclosure. Provide KNOX lock (quantity and location to be determined by the Fire Dept.) for Fire Department access. CFC (California Fire Code) Section 902.4.

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- b) Equipment enclosure/room shall be posted with signage identifying the company name and the site identification number. Signage shall be posed outside and inside the enclosure/room.
  - c) The location shall be labeled for the hazard with a sign approved for location and content by the Fire Department. Signage shall conform to the NFPA 704 standards. Signage shall be posted outside and inside of the enclosure/room.
  - d) NO SMOKING signs shall be posed outside and inside the equipment enclosure/room. CFC Section 1109.4.
  - e) Each antennae shall be identified to denote its function, i.e., transmitter or receiver antennae.
  - f) Shutdown of transmitter antennas shall be provided. Written shutdown procedures (including remote shutdown) shall be provided to the Milpitas Fire Department Inspector at the time of inspection. Fire Department inspection shall include system shutdown.
  - g) For remote shutdown process, the phone number, the specific SITE I.D. number shall be posted outside of the equipment enclosure, on the face of the wireless equipment cabinet, at the electrical equipment (if different location than the wireless equipment), roof hatch, fire control, and other access points to the transmitter antennae.
  - h) If manual shutdown mechanism is located on site, the shutdown mechanism shall be identified.
  - i) The installer shall call for an inspection by the Fire Department to verify labeling, signage and transmission shutdown.
7. If at the time of project conformance with conditions of approval there is a project job account balance due to the City for recovery of review fees, review of plans will not be initiated until the balance is paid in full. (P)

(P) = Planning Division

(E) = Engineering Department

(F) = Fire Department

# GENERAL NOTES

- DRAWINGS ARE NOT TO BE SCALED. WRITTEN DIMENSIONS TAKE PRECEDENCE. THIS SET OF PLANS IS INTENDED TO BE USED FOR DIAGNOSTIC PURPOSES ONLY, UNLESS NOTED OTHERWISE. THE CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ANYTHING ELSE DEEMED NECESSARY TO COMPLETE INSTALLATIONS AS DESCRIBED HEREIN.
- ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL AND STATE JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS. THE FOLLOWING CODES ARE SPECIFICALLY APPLICABLE:  
1967 UNIFORM BUILDING CODE  
1997 UNIFORM MECHANICAL CODE  
1999 NATIONAL ELECTRIC CODE  
2001 CALIFORNIA CODES
- THE ENGINEER HAS MADE EVERY EFFORT TO DETAIL THE COMPLETE SCOPE OF WORK IN THE CONSTRUCTION AND CONTRACT DOCUMENTS. CONTRACTORS ARE NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THE DOCUMENTS. THE CONTRACTOR SHALL BEAR THE RESPONSIBILITY OF NOTIFYING THE ENGINEER IN WRITING OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE CONTRACTOR'S PROPOSAL. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE WORK EXPENSIVE OR EXTENSIVE WORK, UNLESS DIRECTED OTHERWISE.
- ALL DRAWINGS ARE INTERRELATED IN PERFORMANCE OF THE WORK. THE CONTRACTOR MUST REFER TO ALL DRAWINGS. ALL COORDINATION IS THE RESPONSIBILITY OF THE CONTRACTOR.
- DETAILS INCLUDED HEREIN ARE INTENDED TO SHOW THE END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB CONDITIONS OR SITUATIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE SCOPE OF WORK.
- THE CONTRACTOR INVOLVED SHALL VISIT THE JOB SITE AND FAMILIARIZE HIMSELF WITH ALL CONDITIONS AFFECTING THE PROPOSED PROJECT, WITH THE CONSTRUCTION AND CONTRACT DOCUMENTS, AND CONFIRM THAT THE PROJECT MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY ERRORS, OMISSIONS OR DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER.
- VERIFY ALL MEASUREMENTS AT THE SITE BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCES BETWEEN ACTUAL DIMENSIONS AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. SUBMIT ANY DISCREPANCY IN DIMENSIONS TO THE CONSTRUCTION MANAGER FOR CONSIDERATION BEFORE PROCEEDING WITH WORK IN THE AFFECTED AREA.
- NO PLEA OF IGNORANCE OF CONDITIONS THAT EXIST OR OF THE DIFFICULTIES OR CONDITIONS THAT MAY BE ENCOUNTERED OR ANY OTHER RELEVANT MATTER CONCERNING THE WORK TO BE PERFORMED IN THE EXECUTION OF THE WORK WILL BE ACCEPTED AS AN EXCUSE FOR FAILURE OR OMISSION ON THE PART OF THE CONTRACTOR TO FULFILL EVERY DETAIL OF THE REQUIREMENTS GOVERNING THE WORK.
- THE CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM THAT IS NOT CLEARLY DEFINED BY THE CONSTRUCTION DOCUMENTS.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, SUBJECT TO APPROVAL OF THE CONSTRUCTION MANAGER AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH AND INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES AND ORDINANCES TAKE PRECEDENCE.
- THE CONTRACTOR SHALL PROVIDE AT THE PROJECT SITE A FULL SET OF CONSTRUCTION DOCUMENTS UPDATED WITH THE LATEST REVISIONS AND ADDENDUM OR CLARIFICATION AND THE BUILDING PERMIT FOR USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
- PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2A 10BC WITHIN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF THE PROJECT AREA DURING CONSTRUCTION.
- THE EXISTING STRUCTURAL COMPONENTS OF THIS PROJECT SITE ARE NOT TO BE ALTERED BY THIS CONSTRUCTION PROJECT UNLESS NOTED OTHERWISE.
- THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC., DURING CONSTRUCTION. UPON COMPLETION OF WORK, CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
- CONTRACTOR SHALL KEEP THE GENERAL AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS AND RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN A CLEAN CONDITION AND FREE FROM DUST, PAINT SPOTS OR SMUDGES OF ANY NATURE.
- ALL VISIBLE ELEMENTS SHALL BE PAINTED TO MATCH AND BLEND IN WITH THE EXISTING SURROUNDING ELEMENTS OR IN ACCORDANCE WITH REQUIREMENTS OF OWNER OR REGULATORY AGENCIES.

# RANCHO JR. HIGH

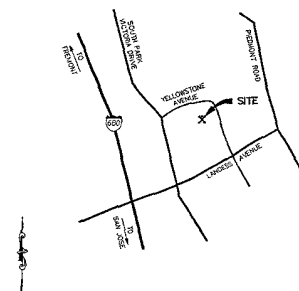
## SF-957-01

**x cingular**  
WIRELESS

### PROPERTY DESCRIPTION

ADDRESS: 1915 YELLOWSTONE AVENUE  
MILPITAS, CA 95035  
APN: 088-24-005

### LOCATION MAP N.T.S.



CITY OF MILPITAS

### PROJECT CONTACTS

**APPLICANT**  
CINGULAR WIRELESS  
4420 ROSEWOOD DR. BUILDING #2, 3RD. FLOOR  
PLEASANTON, CA 94588  
CONTACT: DIANE SLATTERY (925) 227-4254

**PROPERTY OWNER**  
MILPITAS UNIFIED SCHOOL DISTRICT  
1331 E. OLIVERAS BOULEVARD  
MILPITAS, CA 95035  
CONTACT: KEITH WALKER (408) 640-9814

**CONSTRUCTION MANAGER**  
CINGULAR WIRELESS  
4420 ROSEWOOD DR. BUILDING #2, 3RD. FLOOR  
PLEASANTON, CA 94588  
CONTACT: JAY THOMAS (925) 413-8448

**ENGINEERS**  
CRDC  
1625 JULIAN DRIVE  
EL CERRITO, CA 94530  
CONTACT: ART CHEN (510) 234-9088

**SITE ACQUISITION**  
SBA NETWORK SERVICES, INC.  
4420 ROSEWOOD DR. BUILDING #2, 3RD. FLOOR  
PLEASANTON, CA 94588  
CONTACT: BRIAN LEEGWATER (510) 388-0342

**PLANNERS**  
PLANCOM, INC.  
4420 ROSEWOOD DR. BUILDING #2, 3RD. FLOOR  
PLEASANTON, CA 94588  
CONTACT: ANDREW MINER (650) 799-0435

**SURVEYORS**  
QUIET RIVER LAND SERVICES, INC.  
5673 W. LAS POSITAS BOULEVARD, SUITE 215  
PLEASANTON, CA 94588  
CONTACT: KEVIN MCQUIRE (925) 734-6788

### PROJECT DESCRIPTION

THIS PROJECT IS TO INSTALL AND OPERATE A LOCAL PERSONAL COMMUNICATIONS SYSTEM (PCS) SITE WHICH TRANSMITS AND RECEIVES RADIO SIGNALS AS PART OF A REGIONAL PCS NETWORK FOR CINGULAR WIRELESS. THE BASIC COMPONENTS OF THIS SYSTEM ARE:

THREE ANTENNAS, EACH 5'1" TALL x 7" WIDE x 3" DEEP AND WEIGHING 11 LBS., MOUNTED IN A FIBERGLAS RADOME ON A FLAGPOLE AT THE NORTH SIDE OF THE MULTI-USE BUILDING.

FOUR BASE TRANSCEIVER STATIONS (BTS), EACH 5'-10" TALL x 4'-3" WIDE x 3'-1" DEEP AND WEIGHING 1708 LBS., LOCATED AGAINST THE BUILDING BEHIND FENCING.

ELECTRICAL AND TELEPHONE PANELS MOUNTED ON A FRAME IN THE BTS ENCLOSURE.

LEASE AREA IS 209 SQUARE FEET.

**ENVIRONMENTAL INFORMATION:**  
EACH BTS WILL HAVE A MAXIMUM OF FOUR BATTERIES WITH 3.3 QUARTS OF ACID IN EACH BATTERY.

### INDEX

T-1 TITLE SHEET  
A-1 PLANS  
A-2 PLANS AND ELEVATIONS  
A-3 ELEVATION AND DETAILS

### REFERENCE

C-1 SITE SURVEY (EXISTING CONDITIONS)  
C-2 SITE SURVEY (EXISTING CONDITIONS)

**x cingular**  
WIRELESS  
4420 ROSEWOOD DR. Bldg. 2, 3rd Floor  
PLEASANTON, CA 94588



**CRDC**  
ENGINEERS  
1625 Julian Drive, El Cerrito, CA 94530  
PHONE: 510.234.9088 FAX: 510.234.6188

DATE: 03/16/04

DRAWN BY: TC

FILE NO.: SF-957-01

### REVISIONS

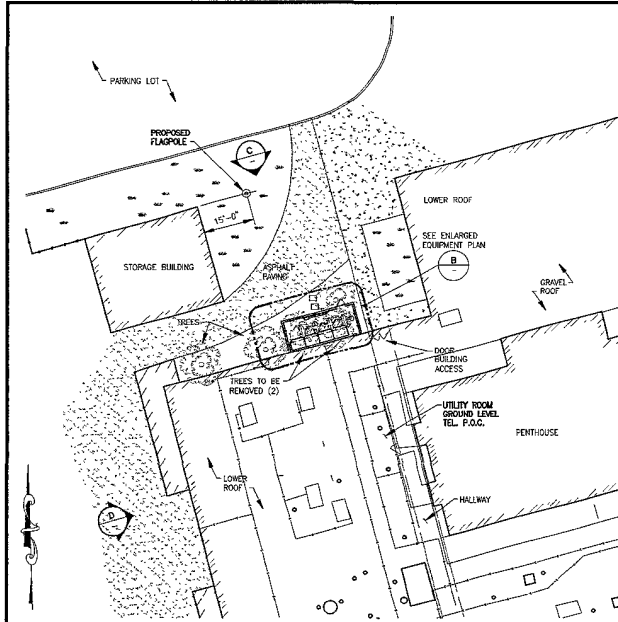
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03/16/04	ADD ZONING ISSUE	TC
04/08/04	ADD ZONING ISSUE	TC

**SF-957-01**  
**RANCHO JR. HIGH**  
1915 YELLOWSTONE AVENUE  
MILPITAS, CA

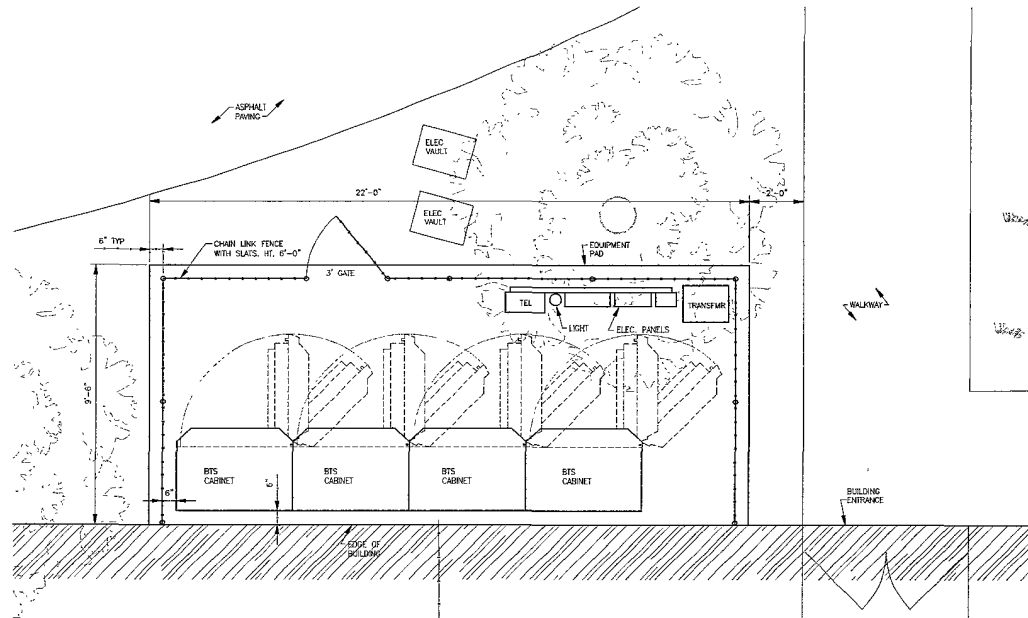
### TITLE SHEET

T-1

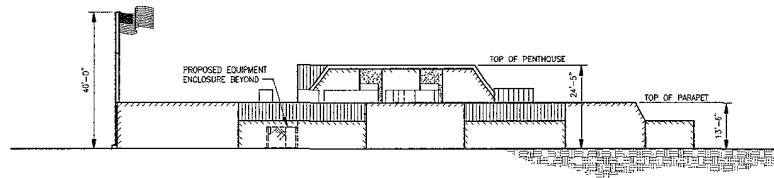




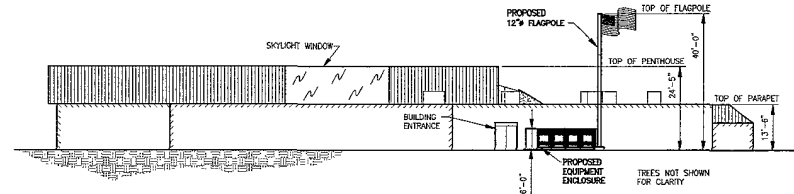
ENLARGED SITE PLAN  
SCALE: 1/16" = 1'-0"



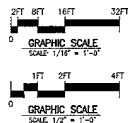
ENLARGED EQUIPMENT PLAN  
SCALE: 1/32" = 1'-0"



WEST ELEVATION  
SCALE: 1/16" = 1'-0"



NORTH ELEVATION  
SCALE: 1/16" = 1'-0"



**x cingular**  
WIRELESS

4420 Rosewood Dr. Bldg. 2, 3rd Floor  
Pleasanton, CA 94588



**CRDC**  
ENGINEERS

1625 Julian Drive El Cerrito, CA 94530  
phone: 510.234.9088 fax 510.234.6188

DATE: 03/16/04

DRAWN BY: ES

FILE NO.: SF-957-01

REVISIONS

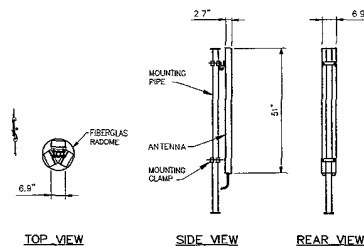
DATE	DESCRIPTION	BY
03/19/04	80% ZONING ISSUE	ES
04/06/04	100% ZONING ISSUE	ES


**SF-957-01**  
**RANCHO JR. HIGH**  
1915 YELLOWSTONE AVENUE  
MILPITAS, CA

**PLANS AND ELEVATIONS**

**A-2**





TOP VIEW

SIDE VIEW

REAR VIEW

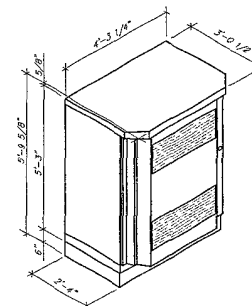
NOTE:  
1. ONLY ONE ANTENNA SHOWN FOR CLARITY  
2. RADOME ENCLOSURE NOT SHOWN FOR CLARITY

PANEL ANTENNA DETAIL

SCALE 1/2\" = 1'-0"

1

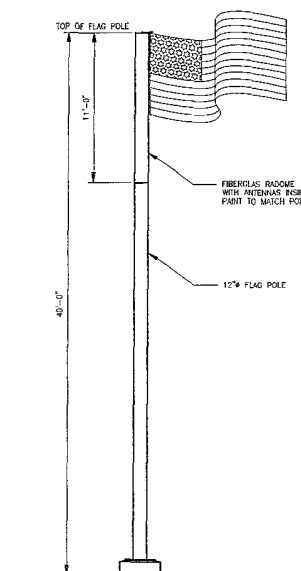
ANTENNA NOTE:  
SECTOR A: AZ=0°, SECTOR B: AZ=120°, SECTOR C: AZ=240°. VERIFY ALL ANTENNA INFORMATION (SIZE, AZ, ETC.) WITH THE LATEST VERSION OF "SITE BUILD FORM".



BTS CABINET DETAIL

SCALE 1/2\" = 1'-0"

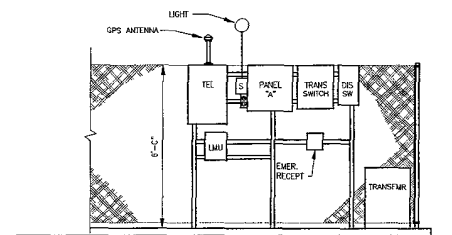
2



FLAGPOLE ELEVATION

SCALE 1/4\" = 1'-0"

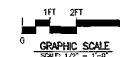
3



PANEL ELEVATION

SCALE 1/2\" = 1'-0"

3



xingular<sup>®</sup> WIRELESS

4420 Rosewood Dr. Bldg. 2, 3rd Floor  
Pleasanton, CA 94588



CRDC  
ENGINEERS

1625 Julian Drive El Cerrito, CA 94530  
phone: 510.234.5088 fax: 510.234.6188

DATE: 03/16/04

DRAWN BY: ES

FILE NO.: SF-957-01

REVISIONS

DATE	DESCRIPTION	BY
03/19/04	BOX ZONING ISSUE	ES
04/08/04	100% ZONING ISSUE	ES

SF-957-01  
RANCHO JR. HIGH  
1915 YELLOWSTONE AVENUE  
MILPITAS, CA

ELEVATION  
AND DETAILS

A-3







## PROJECT DESCRIPTION

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PROPOSAL TO ESTABLISH AND OPERATE  
A NEW DIGITAL PCS  
COMMUNICATIONS FACILITY

**SF-957-01**  
**Rancho Junior High School**  
1915 Yellowstone Avenue  
Milpitas, CA 95035

Prepared for:

**City of Milpitas**  
Community Development Department  
455 E. Calaveras Blvd.  
Milpitas, CA 95035

Prepared by:

**PlanCom, Inc.**  
*Contractor Representatives for*  
**Cingular Wireless**  
4420 Rosewood Drive  
Building 2, 3<sup>rd</sup> Floor  
Pleasanton, CA 94588  
650 799-0435  
Contact: Andrew R. Miner, AICP, Planning Consultant

April 15, 2004



## INTRODUCTION

Cingular Wireless (CW), a.k.a. Pacific Bell Wireless, was established in 1994 as the wireless subsidiary of Pacific Bell. CW is a registered public utility and is developing an all-digital wireless network throughout California and Nevada. In March of 1995, CW was issued a license by the Federal Communications Commission (FCC) for the provision of Personal Communications Services (PCS).

Since the initial market launch of CW's "Pure Digital PCS" network, design engineers at CW have had the opportunity to assess network performance and quality vis-à-vis real market data and conditions. At present, CW is experiencing both capacity and coverage deficiencies in the vicinity of the subject site. In an effort to respond to these network needs and to ensure customer satisfaction, CW is seeking approval from the City of Milpitas to install a new PCS wireless communications facility the Rancho Junior High School, located at 1915 Yellowstone Avenue in Milpitas.

## BACKGROUND

PCS is a rapidly evolving digital technology that is changing the future of telecommunications through easy-to-use, lightweight and highly mobile communications devices including: portable phones, pagers, computers and personal digital assistants. PCS provides voice and data capabilities for customer's communications needs virtually anywhere and at any time.

The PCS network being developed by CW differs from typical cellular networks in that it uses state of the art digital technology versus traditional analog cellular systems, which have been in use since the early 1980's. The benefits include an eight-fold increase in channel capacity, call privacy and security, improved voice call quality and an expanded menu of affordably priced products and services for personal and professional communications needs.

The PCS network is designed for much broader consumer application. In addition to providing users with the convenience and benefit of "virtual office" capabilities, PCS will serve to enhance personal safety and security. With the PCS network in place, individuals will have the ability to communicate during emergency situations and/or when circumstances preclude them from utilizing a conventional land-line telephone.

The wireless industry has undergone tremendous growth worldwide. Studies indicate that by 1999 there will be over 122 million wireless subscribers in over 125 countries throughout the world, and that by 2003 nearly one out of every two individuals in the United States will be utilizing some form of wireless device.



## **SITE CHARACTERISTICS**

The project site Rancho Junior High School located at 1915 Yellowstone Avenue. The site is zoned R-1-6, Residential. The site is generally bounded by the following:

North:	Residential
South:	School
East:	Residential
West:	School playground, Residential beyond

## **PROJECT OVERVIEW**

Cingular Wireless is proposing to install three (3) antennas in a single 40-foot high, 12 inch diameter flagpole. The antennas will be installed in a 12-foot high fiberglass radome. Each antenna will measure 51"h x 13"w x 2.7"d. The supporting equipment will consist of four (4) self-contained, all-weather BTS cabinets, one (1) electric meter panel, one (1) telephone interface, one (1) utility light, one (1) GPS omni-antenna and one (1) LMU RX unit. As illustrated in the drawings, all of the supporting equipment shall be located on the ground behind a new 6'0" chain-link fence with slats, which is adjacent to an existing school building. Each of the BTS cabinets will measure 63"h x 51"w x 28"d and will contain the radio equipment necessary to operate the facility. The specific location and design of the proposed facility is illustrated in further detail on the site plan and elevation drawings.

The proposed flagpole will be located 241' from Yellowstone Avenue and 524' from the eastern side of Yellowstone Avenue. The flagpole will be located approximately 300' from the closest residential unit. The use of a single 12-inch diameter flagpole significantly reduces the visual impact to the surrounding neighbors, as does the location further into the school property adjacent to the existing parking lot. This design site truly fits in to the surrounding environment while providing this area of Milpitas with needed coverage for Cingular's network.

## **OPERATIONAL OVERVIEW**

The FCC has allocated a portion of the radio spectrum to CW for the provision of PCS. The proposed communications facility will transmit at a frequency range of between 1850 MHz and 2100 MHz. The power required to operate the facility typically does not exceed 200 watts per channel, and thus, the CW facility is by design a low-power system. Depending upon characteristics of the site, the actual power requirements may be reduced. When operational, the transmitted signals from the site will consist of non-ionizing waves typically generated significantly lower than the FCC standard for continuous public exposure of 900 microwatts per square centimeter.



Once constructed and operational, the communications facility will provide 24-hour service to its users seven (7) days a week. Apart from initial construction activity, the facility will be serviced by a CW technician on an as-needed basis. Generally, this is likely to occur once per month during normal working hours, though much of the operational adjustments may be handled remotely by computer. Beyond this intermittent service, CW typically requires 24-hour access to the facility to ensure that technical support is immediately available if and when warranted. Note: no additional parking will be required.

## **SITE SELECTION**

CW engineering, planning and leasing staff have been working to improve, enhance and expand the Pure Digital PCS network throughout the City of Milpitas as well as to other underserved regions of the East Bay. Like existing cellular systems, PCS will employ a network of transmit/receive stations ("cell-sites") that carry and "hand-off" signals as the user moves from one area to another. As the user moves from one cell area (the area where a base station and antenna are located to receive and transmit calls) to the next, signals to and from the first cell site fade while those to and from the next cell site strengthen. Sophisticated computer systems sense these signal variations and automatically hand the signal off to an available channel as the user moves between cell areas.

The network of PCS cell sites throughout the region is "locational dependent," measuring that there is a necessary and logical interrelationship between each cell site. Eliminating or relocating a single cell site can lead to gaps in the system or areas where a continuous signal cannot be maintained, and may necessitate significant design changes or modifications to the PCS network.

## **PROJECT JUSTIFICATION**

As noted, Cingular Wireless is a public utility, licensed and regulated by the Federal Communications Commission (FCC) and informally by the State's Public Utilities Commission (CPUC), and authorized to develop and operate a new wireless, digital PCS network throughout California and parts of Nevada. CW engineers responsible for the overall design and operation of this new PCS network want to ensure that network coverage is available throughout the City of Milpitas. The proposed site location is essential to meeting the network's current capacity and coverage needs in this area. The proposed facility is intended to address this need, and by design will interface with neighboring sites to provide high quality, consistent network operations to CW customers.



## **PLANNING/ZONING CONSISTENCY**

The location, size, design, and operating characteristics of the proposed communications facility will not create unusual noise, traffic or other conditions or situations that may be objectionable, detrimental or incompatible with other permitted uses in the vicinity. This determination is supported by the following:

1. By placing the antennas inside a stealth flagpole, the site will naturally blend into the existing uses since a flagpole is traditionally found at schools. None of the antennas or equipment will be visible to the public.
2. The equipment associated with the communication structure operates quietly or virtually noise-free.
3. The equipment does not emit fumes, smoke, or odors that could be considered objectionable.
4. The communications facility is unmanned and only requires periodic maintenance that equates to approximately one vehicle trip per month.

Further, the proposed communications facility will not result in conditions or circumstances contrary to the public health, safety and welfare, in that:

1. The proposed PCS communications facility will operate in full compliance with the U.S. standards for radiofrequency emissions as adopted by the FCC.
2. The radiofrequency emissions emitted by the proposed PCS facility will fall within the portion of the electromagnetic spectrum, which transmits non-ionizing radio waves. Non-ionizing electromagnetic emissions, at the low levels associated with this type of wireless technology, are not harmful to living cells. Among the items, which result in non-ionizing electromagnetic emissions, are police/fire/EMS radios, television broadcasts, CB radios, microwave ovens, and a variety of common household electronics including garage door openers and baby monitors. Conversely, items that transmit ionizing electromagnetic emissions include ultra-violet light, medical x-rays and gamma rays.
3. Data currently available on the effects of electromagnetic transmissions on public health indicate that there is not likelihood of negative impacts to public health and safety.





## **PROPOSED SCHEDULING/ESTIMATED TIME OF COMPLETION**

Cingular Wireless would normally begin construction of the proposed project 1 week after obtaining the required planning and building permits. 6-8 weeks is required for construction to be completed and for CW engineers to optimize the system.



## PROJECT DESCRIPTION

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PROPOSAL TO ESTABLISH AND OPERATE  
A NEW DIGITAL PCS  
COMMUNICATIONS FACILITY

**SF-957-01**  
**Rancho Junior High School**  
1915 Yellowstone Avenue  
Milpitas, CA 95035

Prepared for:

**City of Milpitas**  
Community Development Department  
455 E. Calaveras Blvd.  
Milpitas, CA 95035

Prepared by:

**PlanCom, Inc.**  
*Contractor Representatives for*  
**Cingular Wireless**  
4420 Rosewood Drive  
Building 2, 3<sup>rd</sup> Floor  
Pleasanton, CA 94588  
650 799-0435  
Contact: Andrew R. Miner, AICP, Planning Consultant

April 15, 2004



## **INTRODUCTION**

Cingular Wireless (CW), a.k.a. Pacific Bell Wireless, was established in 1994 as the wireless subsidiary of Pacific Bell. CW is a registered public utility and is developing an all-digital wireless network throughout California and Nevada. In March of 1995, CW was issued a license by the Federal Communications Commission (FCC) for the provision of Personal Communications Services (PCS).

Since the initial market launch of CW's "Pure Digital PCS" network, design engineers at CW have had the opportunity to assess network performance and quality vis-à-vis real market data and conditions. At present, CW is experiencing both capacity and coverage deficiencies in the vicinity of the subject site. In an effort to respond to these network needs and to ensure customer satisfaction, CW is seeking approval from the City of Milpitas to install a new PCS wireless communications facility the Rancho Junior High School, located at 1915 Yellowstone Avenue in Milpitas.

## **BACKGROUND**

PCS is a rapidly evolving digital technology that is changing the future of telecommunications through easy-to-use, lightweight and highly mobile communications devices including: portable phones, pagers, computers and personal digital assistants. PCS provides voice and data capabilities for customer's communications needs virtually anywhere and at any time.

The PCS network being developed by CW differs from typical cellular networks in that it uses state of the art digital technology versus traditional analog cellular systems, which have been in use since the early 1980's. The benefits include an eight-fold increase in channel capacity, call privacy and security, improved voice call quality and an expanded menu of affordably priced products and services for personal and professional communications needs.

The PCS network is designed for much broader consumer application. In addition to providing users with the convenience and benefit of "virtual office" capabilities, PCS will serve to enhance personal safety and security. With the PCS network in place, individuals will have the ability to communicate during emergency situations and/or when circumstances preclude them from utilizing a conventional land-line telephone.

The wireless industry has undergone tremendous growth worldwide. Studies indicate that by 1999 there will be over 122 million wireless subscribers in over 125 countries throughout the world, and that by 2003 nearly one out of every two individuals in the United States will be utilizing some form of wireless device.



## **SITE CHARACTERISTICS**

The project site Rancho Junior High School located at 1915 Yellowstone Avenue. The site is zoned R-1-6, Residential. The site is generally bounded by the following:

North:	Residential
South:	School
East:	Residential
West:	School playground, Residential beyond

## **PROJECT OVERVIEW**

Cingular Wireless is proposing to install three (3) antennas in a single 40-foot high, 12 inch diameter flagpole. The antennas will be installed in a 12-foot high fiberglass radome. Each antenna will measure 51"h x 13"w x 2.7"d. The supporting equipment will consist of four (4) self-contained, all-weather BTS cabinets, one (1) electric meter panel, one (1) telephone interface, one (1) utility light, one (1) GPS omni-antenna and one (1) LMU RX unit. As illustrated in the drawings, all of the supporting equipment shall be located on the ground behind a new 6'0" chain-link fence with slats, which is adjacent to an existing school building. Each of the BTS cabinets will measure 63"h x 51"w x 28"d and will contain the radio equipment necessary to operate the facility. The specific location and design of the proposed facility is illustrated in further detail on the site plan and elevation drawings.

The proposed flagpole will be located 241' from Yellowstone Avenue and 524' from the eastern side of Yellowstone Avenue. The flagpole will be located approximately 300' from the closest residential unit. The use of a single 12-inch diameter flagpole significantly reduces the visual impact to the surrounding neighbors, as does the location further into the school property adjacent to the existing parking lot. This design site truly fits in to the surrounding environment while providing this area of Milpitas with needed coverage for Cingular's network.

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1. The proposed PCS communications facility will operate in full compliance with the U.S. standards for radiofrequency emissions as adopted by the FCC.
2. The radiofrequency emissions emitted by the proposed PCS facility will fall within the portion of the electromagnetic spectrum, which transmits non-ionizing radio waves. Non-ionizing electromagnetic emissions, at the low levels associated with this type of wireless technology, are not harmful to living cells. Among the items, which result in non-ionizing electromagnetic emissions, are police/fire/EMS radios, television broadcasts, CB radios, microwave ovens, and a variety of common household electronics including garage door openers and baby monitors. Conversely, items that transmit ionizing electromagnetic emissions include ultra-violet light, medical x-rays and gamma rays.
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## **PROPOSED SCHEDULING/ESTIMATED TIME OF COMPLETION**

Cingular Wireless would normally begin construction of the proposed project 1 week after obtaining the required planning and building permits. 6-8 weeks is required for construction to be completed and for CW engineers to optimize the system.

City of Milpitas  
Planning Division  
455 E. Calaveras Blvd.  
Milpitas, CA 95035  
(408) 586-3279

**Questionnaire for Telecommunication Facility Providers**

All applicants requesting to install telecommunications facilities within the City of Milpitas must complete this questionnaire as part of their use permit application submittal.

Applicant Name: CINGULAR WIRELESS, ANDREW MINER, AICP  
Applicant Address: 4420 ROSEWOOD DR, BLDG 2, 3RD FLOOR, PLEASANTON, CA 94588  
Applicant Phone: 650 799-0435  
Applicant Fax and e-mail address: AMINER@MAC.COM

Provide a brief description of project (Telecommunications Facility): 3 ANTENNAS MOUNTED INSIDE A 12" DIAMETER FLAGPOLE 40' TALL. 4 EQUIPMENT CABINETS MOUNTED OUTSIDE ADJACENT TO EXISTING BUILDING.

Location of Project: \_\_\_\_\_

1. Please indicate below the frequency range you plan to use?

- ☐ VHF Low-Band (30-50 Mhz or 72-76 Mhz)  
☐ VHF High-Band (136-174 Mhz or 220-222 Mhz)  
☐ UHF or T-Band (406-420 Mhz or 450-470 Mhz or 470-512 Mhz)  
☐ 800 or 900 Mhz Band (800-960 except 900 Mhz Spread Spectrum)  
☐ 900 Mhz Spread Spectrum (902-928 Mhz)  
☒ Other than specified above (State frequency band in Mhz). Describe: 1.9 GHz

2. Please indicate below the channel/system proposed for use?

- ☐ A single channel  
☒ Multiple channel  
☐ A frequency agile system  
☐ A spread spectrum system  
☐ Other than specified above. Describe: \_\_\_\_\_

3. Please indicate below the frequency range you plan to use?

- ☒ Narrow band ( $\pm 5$  KHz or less deviation)  
☐ Broad band (greater than  $\pm 5$  KHz deviation)  
☐ Spread Spectrum  
☐ Other than specified above. Describe: \_\_\_\_\_



4. What will be the effective radiated power (ERP) be when all channels at your proposed site are radiating?  
800 WATTS PER SECTOR Will the site be in compliance with current ANSI radiation health standards? YES
5. What horizontal radiation pattern is planned for this project?
- ☐ Omnidirectional  
☒ Sektored  
☐ Directional (provide half power beam width) \_\_\_\_\_
6. What will the vertical radiation angle (half power beam width) be for your proposed antenna(s)?  
1-8°
7. How high above the local terrain (e.g., surrounding structures) will the center of radiation of your proposed antenna(s) be? 37.8 feet
8. How close to your proposed project is the nearest roadway 240 (feet) miles and, if elevated, what is the roadway's height above the local terrain? LEVEL feet
9. How close to your proposed project is the nearest regularly occupied building and how high is the top floor above local terrain? 40 - ONE SINGLE STORY
10. What is the distance to the nearest existing radio communications or broadcast antenna(s) if less than 1/2 mile? NONE KNOWN TO BE feet/miles. Answer question 1 for such existing antenna(s) and identify owner/operator, if known. LESS THAN 1/2 MILE AWAY
11. What is the status of your FCC license grant? SEE ATTACHED  
 (Include a copy of the license with submittal of this questionnaire.)

**NOTE:** The below listed items are required by the applicant as part of this submittal:

- a) Provider's build-out map\* showing all sites anticipated within Milpitas (see question no. 2)
- b) Photo simulations\*\* of antenna(s) as viewed from at least three surrounding view points. Show "worst case" vantage points.
- c) List of all sites that were investigated\*\* for a particular search ring and the reasons why they were discarded. Include names and phone numbers of persons contacted regarding potential sites.
- d) Copy of applicants Power Density Study\* (see item no. 4).

\* 20 copies (Telecommunication Commission)

\*\* 35 copies (Telecommunication Commission & Planning Commission)

Back of  
Telecommunication Questionnaire



United States of America  
Federal Communications Commission

## RADIO STATION AUTHORIZATION

Commercial Mobile Radio Services  
Personal Communications Service - Broadband

PACIFIC TELESIS MOBILE SERVICES  
4420 Rosewood Drive  
Bldg. 2, 4th Floor  
Pleasanton, CA 94588

Call Sign: **KNLF209**  
Market: **M004**  
SAN FRANCISCO-OAKLAND-SAN JOSE  
Channel Block: **B**  
File Number: **00006-CW-L-95**

The licensee hereof is authorized, for the period indicated, to construct and operate radio transmitting facilities in accordance with the terms and conditions hereinafter described. This authorization is subject to the provisions of the Communications Act of 1934, as amended, subsequent Acts of Congress, international treaties and agreements to which the United States is a signatory, and all pertinent rules and regulations of the Federal Communications Commission, contained in the Title 47 of the U.S. Code of Federal Regulations.

Initial Grant Date . . . . . June 23, 1995  
Five-year Build Out Date . . . . . June 23, 2000  
Expiration Date . . . . . June 23, 2005

### CONDITIONS :

Pursuant to Section 309(h) of the Communications Act of 1934, as amended, (47 U.S.C. § 309(h)), this license is subject to the following conditions: This license does not vest in the licensee any right to operate a station nor any right in the use of frequencies beyond the term thereof nor in any other manner than authorized herein. Neither this license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended (47 U.S.C. § 151, et seq.). This license is subject in terms to the right of use or control conferred by Section 706 of the Communications Act of 1934, as amended (47 U.S.C. § 606).

Conditions continued on Page 2.

### WAIVERS :

No waivers associated with this authorization.

No. 737 08/01 '96 17:00 ID:PBTS

KNLF209

FBI TEL FID XIG

PACIFIC TELESIS MOBILE SERVICES

No. 4181 P. 5/5

00008-CW-1-96

**CONDITIONS:**

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km (45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

This authorization is subject to the condition that the remaining balance of the winning bid amount will be paid in accordance with Part 1 of the Commission's rules, 47 C.F.R. Part 1.

# FEDERAL COMMUNICATIONS COMMISSION

WASHINGTON, D.C. 20554

## GRANT OF EQUIPMENT AUTHORIZATION

Type Acceptance

Ericsson Radio Systems AB  
Torshamnsgatan 21-23  
Kista  
S-164 80 Stockholm Sweden

Attention: Mats Foss, GSM Manager

Date of Grant: April 29, 1997  
File No: 31010/EQU 17.9  
Application dated: February 7, 1997

### NOT TRANSFERABLE

EQUIPMENT AUTHORIZATION is hereby issued to the named GRANTEE, and is VALID ONLY for the equipment identified herein for use under the Commission's Rules and Regulations listed below.

FCC IDENTIFIER

Name of Grantee

Equipment Class : Non-Broadcast Transmitter

Note(s)	Rule Part(s)	Frequency Range (MHz)	Output Watts	Frequency Tolerance	Emission
BC	24	1930.2-1989.8	2.5	.05 PM	30SGXW

The unit must use reduced power as documented in filing for the channels adjacent to the frequency block edges.

BC: The output power is continuously variable from the value listed in this entry to 5%-10% of the value listed.

R35 2301

In correspondence concerning this grant, please refer to the FCC IDENTIFIER, File No., and date of grant.  
10 8115046001

FCC 731A  
October 1991

TOTAL ANT. SID 02

NO. 2684 P. 3

APR. 15. 2004 4:33PM

### SAKERHETSKRAV

Material skall vara UL-godkänd.

### UTFÖRANDE

Text- och frutiger: 65 H-2,4 mm.  
Text och linjer screentrycks i svart 01.  
Botten screentrycks i vitt 985.  
Temperatur: -20 till +100 grader C.  
Spälvälfärdig.

### NOT

Druckning måste anges vid beställning.

### VITAL SAFETY REQUIREMENTS

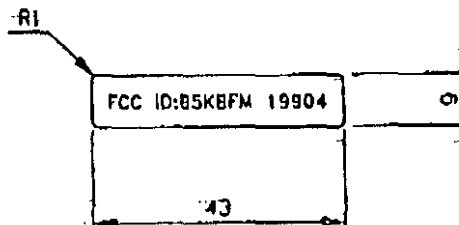
UL-recognized material.

### DESIGN

Text acc. to Frutiger: 65 H-2,4 mm.  
Text and lines are printed in black 01.  
Bottom printed in white 985.  
Temperature: -20 to +100 degrees C.  
Self adherent.

### NOTE

Mounting surface must be specified at order.



ERICSSON		Uppgjord (över förhållning om annan) - Prepared (also subject responsible if other)	
ERA/LRN		ERATGOT	
Referenser - References		Dokument/Doc. resp. Approved	
ACAOR12		ERA/LRN/KMC (D. v. Willing)	
Rita/tegar - Drawing rules		Datum - Date	
1011-386		1997-01-22	
Toleranser - Tolerances		Rev	
1030-103 m		A	
Skala - Scale		Produktbenämning - Product name	
11		SKYLT / LABEL	
		Dokumentnr - Document No	
		1301-SVH 287 019/2	
		Ux	
		Blad - Sheet	
		111	

## PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298

February 5, 1996

Pacific Bell Mobile Services  
Ms. Cathy Jo Farey, Manager-Regulatory Affairs  
130 Kearney Street, Room 3609  
San Francisco, CA 94105

Re: Personal Communications Services Identification Number  
for Pacific Bell Mobile Services (U-3060-C).

Dear Ms. Farey:

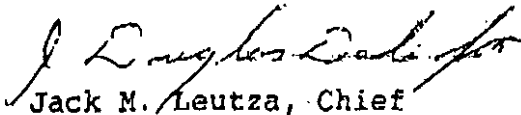
This is to notify you that the information provided the Commission Advisory and Compliance Division (CACD) in a letter dated December 21, 1995, generally meets the information filing requirements for Wireless Registration Identification (WRI) in Decision 94-10-031 as modified by Decision 94-12-042, as a provider of Personal Communications Services (PCS). Your corporate identification number is U-3060-C. Pacific Bell Mobile Services may begin offering PCS service to the public upon the filing of tariffs that are in compliance with Commission rules and regulations.

In all respects except authorization for market entry, the authority of the Commission to regulate rates, terms and conditions of newly registered wireless carriers shall apply to the same extent as those holding certificates of CPCN prior to August 10, 1994. Specifically this includes, but is not limited to the following requirements:

1. The corporate identification number assigned to applicant is U-3060-C, which should be included in the caption of all original filings with this Commission and in the titles of other pleadings filed in existing cases.
2. Applicant is authorized to file tariff schedules to the PAL Coordinator, 505 Van Ness Ave, San Francisco, CA. 94102. Tariffs become effective upon the date filed, so it is recommended a draft copy be sent for staff review prior to filing final tariffs.
3. Applicant is subject to the provisions of General Order 96-A as modified by D.88-05-067 and D.90-05-025 (as modified by D.90-10-047, D.93-04-053, and D.94-04-043).
4. Applicant shall notify the Director of the Commission Advisory and Compliance Division (CACD) in writing of the date service is first rendered to the public as authorized herein, within five days after service begins.
5. Applicant shall be granted a waiver of PU Code sections 816-830 and 851-855, consistent with Decisions 85-07-081 and 85-11-044.

6. Applicant shall comply with PUC Code Section 401, et seq., and Resolution M-4770, as they pertain to the collection of user fees to fund the costs of regulating public utilities. The current user fee is one-tenth of one percent (0.1%).
7. Applicant shall comply with PU Code Section 2881 and Resolution T-15254 as they pertain to a surcharge on gross intrastate revenues to fund the "California Relay Service and Communications devices fund". The current rate is three-tenths of 1 percent (0.3%).
8. Applicant should include in its tariff appropriate rules for imposing and collecting the user fees and surcharges described above.
9. Applicant shall file an annual report, in compliance with General Order 104-A, on a calendar-year basis using the format specified by the Chief of the Auditing and Compliance Branch of CACD. (Appendix A.)
10. The corporate identity number and authority to render cellular service under the rates, charges, and rules authorized will expire if not exercised within 12 months after the date of this letter.
11. Within 60 days of the issuance of a Wireless Registration Identification number, applicant shall comply with PU Code Section 708, Employee Identification Cards, and notify, in writing, the Chief of the Telecommunications Branch of CACD.
12. If applicant fails to file an annual report or remit the fees discussed above, then CACD shall prepare a Commission resolution that revokes the applicants Wireless Identification Number for Commission approval.
13. Applicant is subject to the jurisdiction of the Commission for the resolution of customer complaints.
14. Applicant shall notify CACD in writing of any changes to the information it submitted for wireless registration within 30 days. Such information does not have to be served on competitors, cities and counties.

Sincerely yours,



Jack M. Leutza, Chief  
Telecommunications Branch  
Commission Advisory and Compliance Division

Enclosure

<b>Candidate Number</b>	<b>Address</b>	<b>City</b>	<b>Zip</b>	<b>Struct Ht.</b>	<b>Struct New/Exist:</b>	<b>Structure Type:</b>	<b>BTS Stat</b>
BC-213-01	400 N. McCarthy Blvd.	Milpitas	95035	25	Existing	Bldg	X70
SF-557-02	668 Barber Lane	Milpitas	95035	70	Existing	Bldg	X70
SF-561-06	1200 Pecten Ct.	Milpitas	95035	48	New	Monopole	X70
SF-588-02	504 Valley Way	Milpitas	95035	30	Existing	Bldg	X70
SF-589-02	990 Ames Avenue	Milpitas	95035	74	Existing	Bldg	X70
SF-590-02	500 East Calaveras	Milpitas	95035	51	Existing	Bldg	X70
SF-924-01	250 Roswell Drive	Milpitas	95035	23	Existing	Roof Mount	X70
SF-926-01	1000 Jacklin Road	Milpitas	95035	63	New	Clock Tower	X23
SF-932-01	341 Great Mall Parkway	Milpitas	95035	30	Existing	Roof Mount	X70
SF-933-03	1525 McCarthy Blvd.	Milpitas	95035	42	Existing	Side Mount	X21
SF-938-80	850 Berryessa Street	Milpitas	95035		New		X14
SF-957-01	1915 Yellowstone Avenue	Milpitas	95035		New		X14
SF-963-01	1601 Dixon Landing Road	Milpitas	95035	78	Existing	Monopole	X70
SF-965-01	930 Wrigley Way	Milpitas	95035	46	Existing	Flag Pole	X70



# Cingular Sites - City of Milpitas



**Map Legend**

- Site On Air
- Site Proposed

The information contained herein is confidential and competitively sensitive and may only be disclosed to parties that have signed a non-disclosure agreement with Cingular Wireless. Disclosure or use of this information without the written consent of Cingular Wireless is prohibited. This information is for discussion purposes only and is subject to change without notice.

EM\_040504.wor

EXISTING

SF-957-01  
Rancho Jr. High  
1915 Yellowstone Ave.  
Milpitas, CA

cingular<sup>SM</sup>  
WIRELESS



Proposed antennas within  
new 40' flagpole



**PROPOSED**

Photosimulation of proposed telecommunications site

8/25/11

SF-957-01  
Rancho Jr. High  
1915 Yellowstone Ave.  
Milpitas, CA

cingular<sup>SM</sup>  
WIRELESS



Proposed antennas within  
new 40' flagpole

Proposed equipment enclosure



**PROPOSED**

*Photosimulation of proposed telecommunications site*



## ALTERNATIVE SITE ANALYSIS

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PROPOSAL TO ESTABLISH AND OPERATE  
A NEW DIGITAL PCS  
COMMUNICATIONS FACILITY

**SF-957-01**  
**Rancho Junior High School**  
1915 Yellowstone Avenue  
Milpitas, CA 95035

Prepared for:

**City of Milpitas**  
Community Development Department  
455 E. Calaveras Blvd.  
Milpitas, CA 95035

Prepared by:

**PlanCom, Inc.**  
*Contractor Representatives for*  
**Cingular Wireless**  
4420 Rosewood Drive  
Building 2, 3<sup>rd</sup> Floor  
Pleasanton, CA 94588  
650 799-0435  
Contact: Andrew R. Miner, AICP, Planning Consultant

April 15, 2004



## **INTRODUCTION**

As part of Cingular's site selection process, different site locations are considered prior to making a final decision on a site. In the case of the site at Rancho Junior High School, the choices did not provide the coverage necessary for the area. This document will describe two alternative sites considered and pursued in addition to the proposed site for which we have this application.

In general, the alternative sites are constrained by several factors, including the close proximity to existing sites and the relatively low structures in the area. In each case a Cingular leasing representative contacted the owners of the properties to see if they had any interest in working with Cingular.

It should be noted, however, that each alternative site is inferior as a wireless telecommunications site to the proposed site because different factors and the sites were not pursued.

### **PARKTOWN BUILDING, 1798 CLEAR LAKE AVE.**

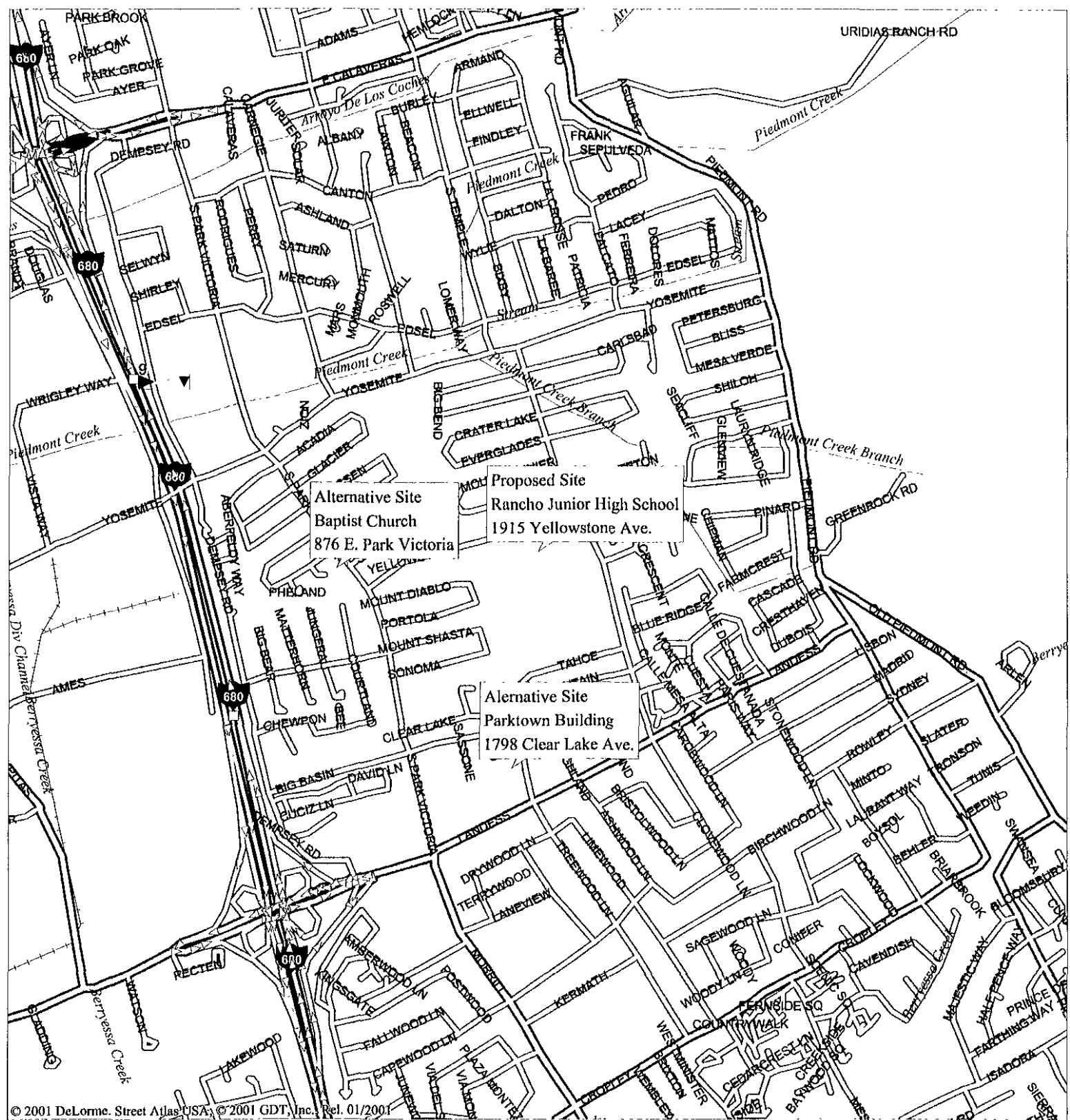
The building is 30 feet tall. To meet the RF coverage objectives of 40 feet, there would need to be a projection on top of the building of 10 feet. In addition, this building is 16' lower elevation than the proposed site. The fact the difference in height between the proposed site at the school and this option is 26'; this would cause a significant reduction in coverage in the desired area.

### **BAPTIST CHURCH, 876 S. PARK VICTORIA**

Although the building is 45' tall, the property is 54' lower than the school site. This would mean the school site is 49' higher than the church site. In addition, the church location is too close to an existing Cingular site (SF-589-02 at 990 Ames Ave.). The close proximity to an existing site and the lower elevation of the site makes this site less desirable to serve the subject area.

## **CONCLUSION**

Although there are two alternative sites in the search ring, these sites are inferior to the proposed site at the Rancho Junior High School. Neither of the alternative sites have the same ground elevation, which means the structures at either of these location would need to be significantly taller than the school flagpole. Also, the close proximity of the church site to an existing site makes it undesirable.



Mag 15.00  
 Thu Apr 15 20:55 2004  
 Scale 1:15,625 (at center)  
 1000 Feet  
 500 Meters

- |                             |                     |
|-----------------------------|---------------------|
| Local Road                  | Exit/Lodging        |
| Major Connector             | Exit/Food           |
| State Route                 | Exit/Other Services |
| Interstate/Limited Access   | Population Center   |
| Interstate/Unlimited Access | River/Canal         |
| Exit                        | Intermittent River  |
| Railroad                    |                     |
| Exit/Gas                    |                     |

Cingular Site SF-957-01  
 Rancho Junior High School  
 1915 Yellowstone, Milpitas  
 Alternative Sites

**JERROLD T. BUSHBERG Ph.D., DABMP, DABSNM**  
**◆HEALTH AND MEDICAL PHYSICS CONSULTING◆**

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7784 Oak Bay Circle Sacramento, CA 95831  
(916) 393-6168

Andrew Miner  
PLANcom Inc.  
600 Willow Rd #20  
Menlo Park, California 94025

April 6, 2004

### **Introduction**

At your request, I have reviewed the technical specifications and calculated the maximum radiofrequency, (RF), power density from the proposed Cingular Wireless (CW) wireless telecommunications site, (referenced as SF-957-01), to be located at Rancho Jr. High School 1915 Yellowstone Avenue, Milpitas, California as depicted in attachment 1.

This proposed CW telecommunication site will consist of a Personal Communications Services (PCS) wireless facility. The facility will utilize directional transmit panel antennae configured in three (3) sectors. The antennae are planned to be mounted inside a radome with their radiation center at least 37.8 feet above grade directed at 0 (sector A), 120 (sector B) and 240 (sector C) degrees true north. The antennas specified are Decibel Products model #932DG65VTE-M for sector A and #932DG90VTE-M for sectors B&C. Technical specifications of these antennae are provided in attachment two. The sectorized antennas are designed to transmit with an effective radiated power (ERP) of up to 800 watts per sector within a bandwidth between approximately 1,850 and 1,990 MHz.

### **Calculation Methodology, Results & Recommendations**

Calculations were made in accordance with the recommendations contained in the Federal Communications Commission, Office of Engineering and Technology Bulletin 65 (edition 97-01, page 24, equation 10 ) entitled "Evaluating Compliance with FCC-Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields." Several assumptions were made in order to provide the most conservative or "worse case" projections of power densities. Calculations were made assuming that all channels were operating simultaneously at their maximum design effective radiated power. Attenuation (weakening) of the signal that would result from surrounding foliage or buildings was ignored. Buildings can reduce the signal strength by a factor of 10 (i.e., 10 dB) or more depending upon the construction material. The ground or other surfaces were considered to be perfect reflectors (which they are not) and the RF energy was assumed to overlap and interact constructively at all locations (which they would not) thereby resulting in the calculation of the maximum potential exposure. In fact, the accumulations of all these very conservative assumptions will significantly overestimate the actual exposures that would typically be expected from such a facility. However, this method is a prudent approach that errs on the side of safety.

The maximum public RF exposure from this CW facility was calculated to be less than  $2.7 \mu\text{W}/\text{cm}^2$  (i.e., ~0.3 % of the public safety standard at 1,850 MHz). Exposure details are shown in appendix A. A sign conforming to with ANSI C95.2 color, symbol and content should be placed close to the antennas with appropriate contact information in order to alert maintenance or other workers approaching the antenna to the presence of RF transmissions and to take precautions to avoid exposures in excess of FCC limits.

### **RF Safety Standards**

The two most widely recognized standards for protection against RF field exposure are those published by the American National Standards Institute (ANSI) C95.1 and the National Council on Radiation Protection and measurement (NCRP) report #86.

The NCRP is a private, congressionally chartered institution with the charge to provide expert analysis of a variety of issues (especially health and safety recommendations) on radiations of all forms. The scientific analyses of the NCRP are held in high esteem in the scientific and regulatory community both nationally and internationally. In fact, the vast majority of the radiological health regulations currently in existence can trace their origin, in some way, to the recommendations of the NCRP.

All RF exposure standards are frequency-specific, in recognition of the differential absorption of RF energy as a function of frequency. The most restrictive exposure levels in the standards are associated with those frequencies that are most readily absorbed in humans. Maximum absorption occurs at approximately 80 MHz in adults. The NCRP maximum allowable continuous occupational exposure at this frequency is  $1,000 \mu\text{W}/\text{cm}^2$ . This compares to  $5,000 \mu\text{W}/\text{cm}^2$  at the most restrictive of the PCS frequencies (~1,800 MHz) that are absorbed much less efficiently than exposures in the VHF TV band.

The traditional NCRP philosophy of providing a higher standard of protection for members of the general population compared to occupationally exposed individuals, prompted a two-tiered safety standard by which levels of allowable exposure were substantially reduced for "uncontrolled " (e.g., public) and continuous exposures. This measure was taken to account for the fact that workers in an industrial environment are typically exposed no more than eight hours a day while members of the general population in proximity to a source of RF radiation may be exposed continuously. This additional protection factor also provides a greater margin of safety for children, the infirmed, aged, or others who might be more sensitive to RF exposure. After several years of evaluating the national and international scientific and biomedical literature, the members of the NCRP scientific committee selected 931 publications in the peer-reviewed scientific literature on which to base their recommendations. The current NCRP recommendations limit continuous public exposure at PCS frequencies to  $1,000 \mu\text{W}/\text{cm}^2$ .

The current ANSI standard was developed by Scientific Coordinating Committee 28 (SCC 28) under the auspices of the Institute of Electrical and Electronic Engineers (IEEE). This standard, entitled "IEEE Standards for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz" (IEEE C95.1-1991), was issued in April 1992 and subsequently adopted by ANSI in November 1992. The current ANSI/IEEE standard is similar to the current NCRP recommendation for public exposure at PCS frequencies ( $1,200 \mu\text{W}/\text{cm}^2$ ) for continuous exposure and incorporates the convention of providing for a greater margin of safety for public as compared with occupational exposure. Higher whole body exposures are allowed for brief periods provided that no 30 minute time-weighted average exposure exceeds these aforementioned limits.



On August 9, 1996, the Federal Communications Commission (FCC) established a RF exposure standard that is a hybrid of the current ANSI and NCRP standards. The maximum permissible exposure values used to assess environmental exposures are those of the NCRP (i.e., maximum public continuous exposure at PCS frequencies of  $1,000 \mu\text{W}/\text{cm}^2$ ). The FCC issued these standards in order to address its responsibilities under the National Environmental Policy Act (NEPA) to consider whether its actions will "significantly affect the quality of the human environment." In as far as there was no other standard issued by a federal agency such as the Environmental Protection Agency (EPA), the FCC utilized their rulemaking procedure to consider which standards should be adopted. The FCC received thousands of pages of comments over a three-year review period from a variety of sources including the public, academia, federal health and safety agencies (e.g., EPA & FDA) and the telecommunications industry. The FCC gave special consideration to the recommendations by the federal health agencies because of their special responsibility for protecting the public health and safety. In fact, the maximum permissible exposure (MPE) values in the FCC standard are those recommended by EPA and FDA. The FCC standard incorporates various elements of the 1992 ANSI and NCRP standards which were chosen because they are widely accepted and technically supportable.

There are a variety of other exposure guidelines and standards set by other national and international organizations and governments, most of which are similar to the current ANSI/IEEE or NCRP standard, figure one.

The FCC standards "Guidelines for Evaluating the Environmental Effects of Radiofrequency Radiation" (Report and Order FCC 96-326) adopted the ANSI/IEEE definitions for controlled and uncontrolled environments. In order to use the higher exposure levels associated with a controlled environment, RF exposures must be occupationally related (e.g., PCS company RF technicians) and they must be aware of and have sufficient knowledge to control their exposure. All other environmental areas are considered uncontrolled (e.g., public) for which the stricter (i.e., lower) environmental exposure limits apply. All carriers were required to be in compliance with the new FCC RF exposure standards for new telecommunications facilities by October 15, 1997. These standards applied retroactively for existing telecommunications facilities on September 1, 2000.

The task for the physical, biological, and medical scientists that evaluate health implications of the RF data base has been to identify those RF field conditions that can produce harmful biological effects. No panel of experts can guarantee safe levels of exposure because safety is a null concept, and negatives are not susceptible to proof. What a dispassionate scientific assessment can offer is the presumption of safety when RF-field conditions do not give rise to a demonstrable harmful effect.

### **Summary & Conclusions**

This proposed PCS facility as specified above will be in full compliance with FCC RF public safety standards. PCS transmitters, by design and operation, are low-power devices. Even under maximal exposure conditions in which all the channels from all antennas, are operating at full power, the maximum public exposure will not result in RF exposures in excess of 0.3% of the public safety standard at any publically accessible location surrounding the building. A chart of the electromagnetic spectrum and a comparison of RF power densities from various common sources is presented in figures two and three respectively in order to place exposures from PCS telecommunications systems in perspective.

It is important to realize that the FCC maximum allowable exposures are not set at a threshold between safety and known hazard but rather at 50 times below a level that the majority of the scientific community believes may pose a health risk to human populations. Thus the previously mentioned maximum public exposure at any location surrounding this site represent a "safety margin" from this threshold of potentially adverse health effects of more than 18,500 times.

Given the low levels of radiofrequency fields that would be generated from this facility, and given the evidence on biological effects in a large data base, there is no scientific basis to conclude that harmful effects will attend the utilization of the proposed wireless telecommunications facility. This conclusion is supported by a large numbers of scientists that have participated in standard-setting activities in the United States who are overwhelmingly agreed that RF radiation exposure below the FCC exposure limits has no demonstrably harmful effects on humans.

These findings are based on my professional evaluation of the scientific issues related to the health and safety of non-ionizing electromagnetic radiation and my analysis of the technical specification as provided by CW. The opinions expressed herein are based on my professional judgement and are not intended to necessarily represent the views of the University of California. Please contact me if you require any additional information.

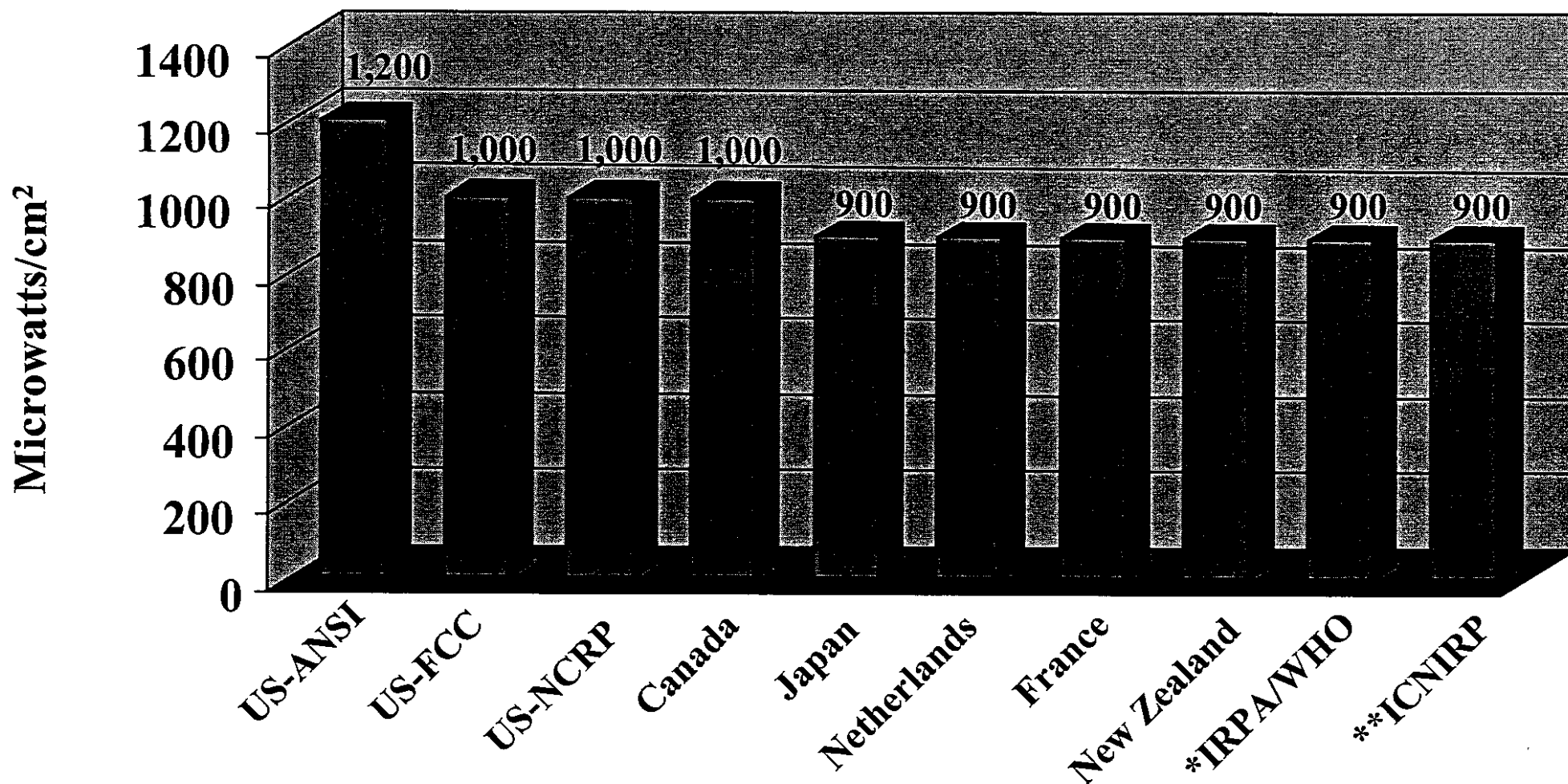
Sincerely,

A handwritten signature in black ink, appearing to read "Jerrold T. Bushberg", with a long horizontal flourish extending to the right.

Jerrold T. Bushberg Ph.D., DABMP, DABSNM  
Diplomate, American Board of Medical Physics (DABMP)  
Diplomate, American Board of Science in Nuclear Medicine (DABSNM)

Enclosures: Figures 1-3; Attachments 1, 2; Appendix A, and Statement of Experience.

# Public Safety Exposure Standards at PCS (~1,800 MHz) Frequencies



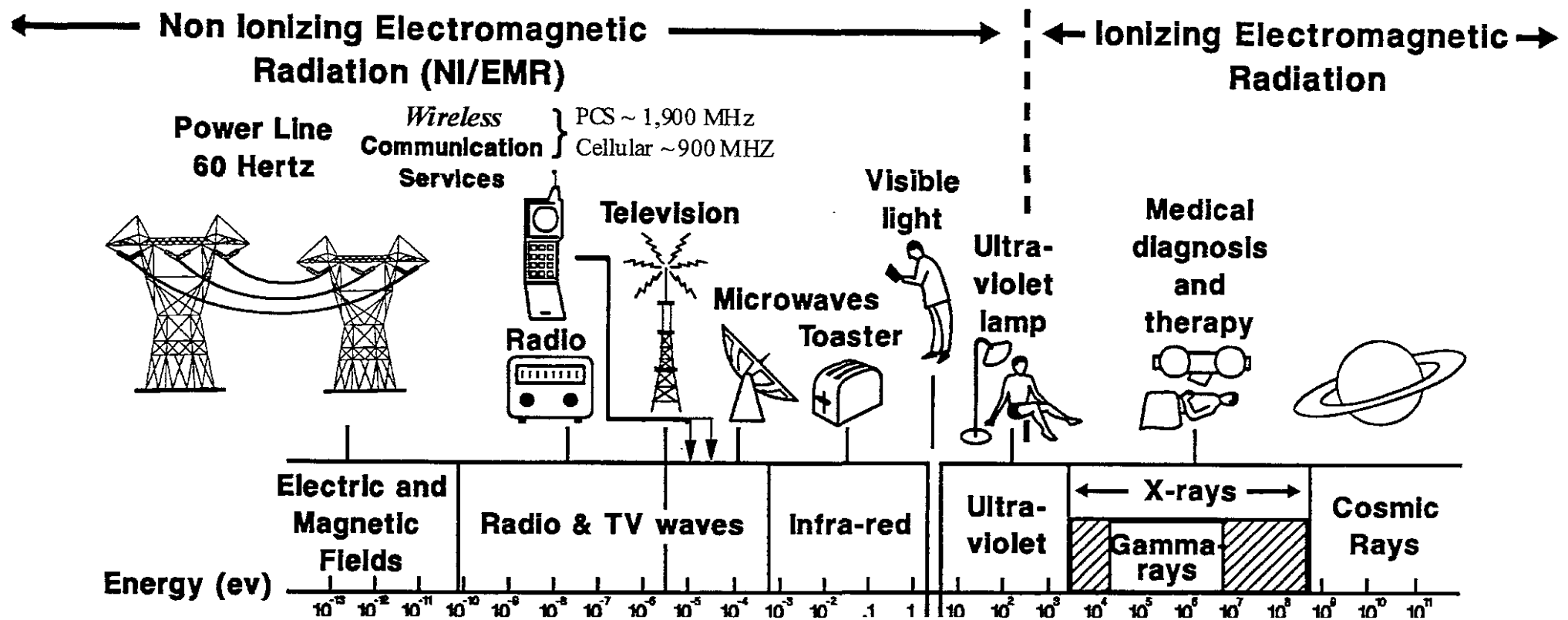
\*International Radiation Protection Association (IRPA)/ World Health Organization Environmental Health (WHO) Public Safety Exposure Standard (1993). Members of the Scientific Committee were from:

- |             |          |          |                  |                 |
|-------------|----------|----------|------------------|-----------------|
| • Australia | • Canada | • France | • Germany        | • Hungary       |
| • Italy     | • Poland | • Russia | • United Kingdom | • United States |

\*\*International Commission on Non-Ionizing Radiation Protection Public Safety Exposure Standard (1998). Members of the Scientific Committee were from:

- |             |          |           |                  |                 |           |
|-------------|----------|-----------|------------------|-----------------|-----------|
| • Australia | • Sweden | • France  | • Germany        | • Hungary       | • Finland |
| • Italy     | • Poland | • Austria | • United Kingdom | • United States | • Japan   |

Figure 1



# The Electromagnetic Spectrum

Figure 2

---

## *Typical Exposure from Various Radio Frequency / Microwave Sources*

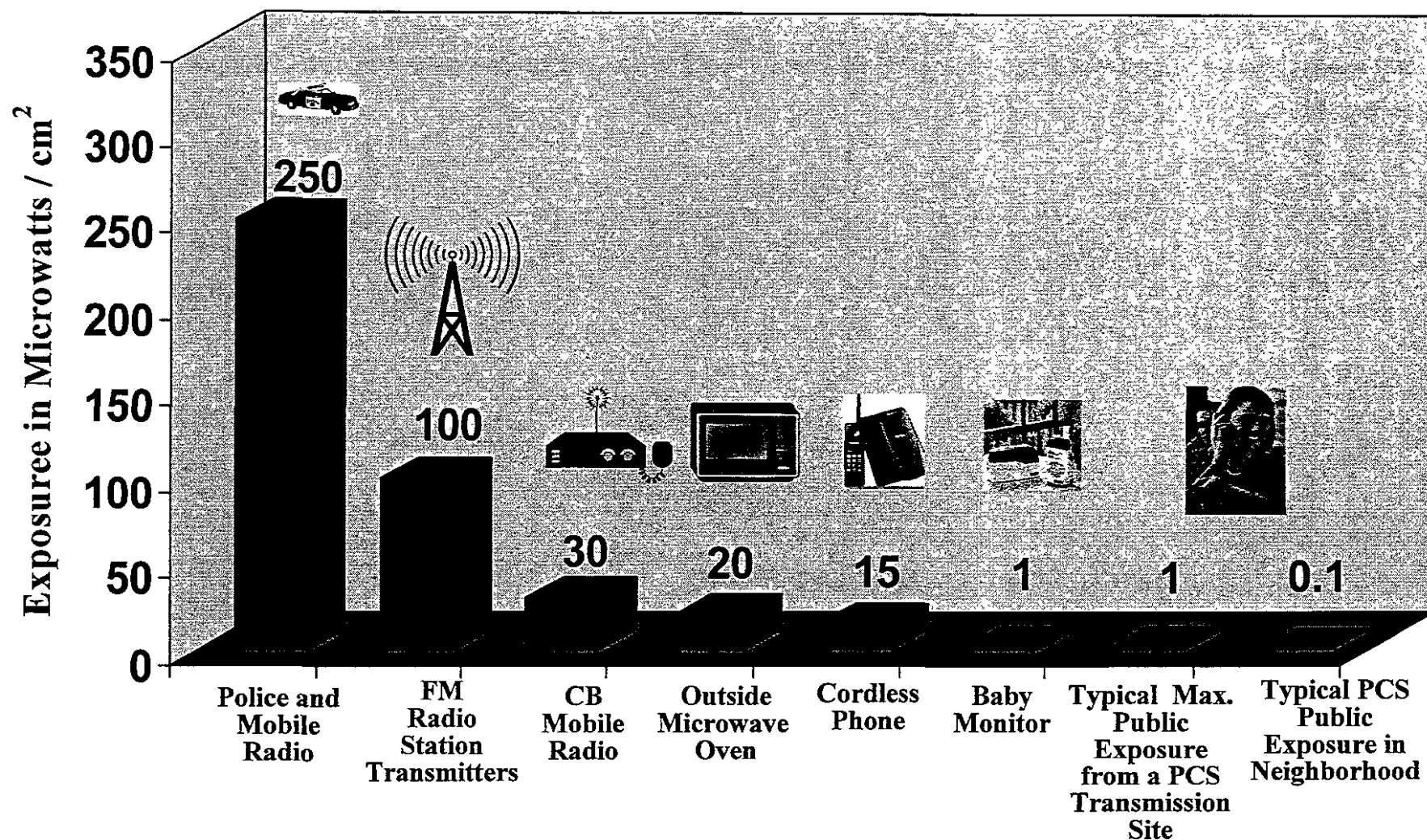


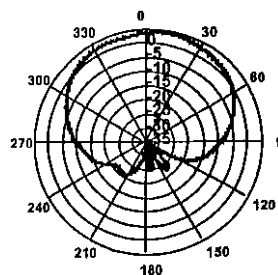
Figure 3

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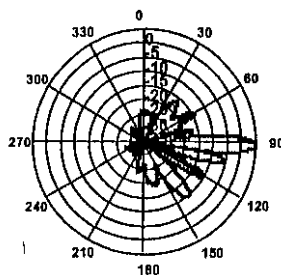
# **Attachment 2**

## **Antenna Specifications**

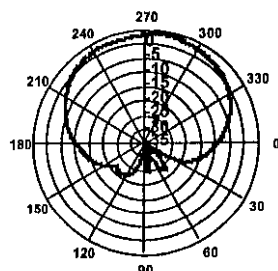
<b>DECIBEL</b> <i>Base Station Antennas</i>	932QDG90VTEM 16 dBi, $\pm 45^\circ$ Diversity, Quad Antenna 1850-1990, 1850-1990 MHz	1850-1990 MHz 1850-1990 MHz
		GEN3XPOL™ VARI-TILT®
<ul style="list-style-type: none"><li>• Two dual-pole antennas, each with independent field adjustable beam tilt</li><li>• Allows four carriers without transmit combining losses</li><li>• Excellent gain in small, attractive package</li><li>• Excellent upper side lobe suppression</li></ul>		90°



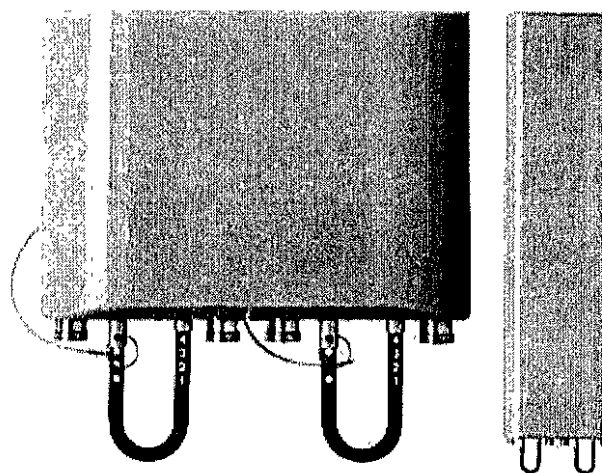
Azimuth 1950 MHz (Tilt=1)



Vertical 1950 MHz (Tilt=1)



Horizontal 1950 MHz (Tilt=1)



ELECTRICAL			MECHANICAL	
Frequency (MHz):	1850-1990	1850-1990	Weight:	24 lbs (10.9 kg)
Polarization:	+45°/-45°	+45°/-45°	Dimensions (LxWxD):	51.5 X 14 X 3.5 in (1308 X 356 X 89 mm)
Gain (dBd/dBi):	13.9/16	13.9/16	Max. Wind Area:	2.58 ft² (0.24 m²)
Azimuth BW:	90°	90°	Max. Wind Load (@ 100mph):	144 lbf (641 N)
Elevation BW:	6.5°	6.5°	Max. Wind Speed:	125 mph (201 km/h)
Beam Tilt:	1-8°	1-8°	Radiator Material:	Aluminum
USLS* (dB):	>15	>15	Reflector Material:	Aluminum
Front-to-Back Ratio* (dB):	32	32	Radome Material:	Polycarbonate, UV Resistant
Isolation (dB):	>30	>30	Mounting Hardware Material:	Galvanized Steel
VSWR:	<1.33:1	<1.33:1	Connector Type:	7-16 DIN - Female (Bottom)
IM Suppression - Two 20 Watt Carriers:	-150 dBc	-150 dBc	Color:	Light Gray
Impedance:	50 Ohms	50 Ohms	Standard Mounting Hardware:	DB380 Pipe Mount Kit, Included
Max Input Power:	250 Watts	250 Watts	Downtilt Mounting Hardware:	DB5083, optional
Lightning Protection:	DC Ground	DC Ground		
Opt Electrical Tilt:	0°, 2°, 4°	0°, 2°, 4°		



Andrew Corporation  
8635 Stemmons Freeway  
Dallas, Texas U.S.A 75247-3701  
Tel: 214.631.0310

Fax: 214.631.4708  
Toll Free Tel: 1.800.676.5342  
Fax: 1.800.229.4706  
www.andrew.com

Date: 4/2/2004  
\* - Indicates Typical Values

rltech@andrew.com

**DECIBEL®**  
Base Station Antennas

**932SDG65VTEM**

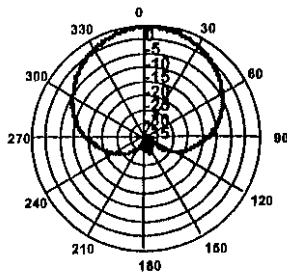
17 dBi, +/- 45° Diversity Panel, Six Port Antenna  
1850-1990 MHz

1850-1990 MHz

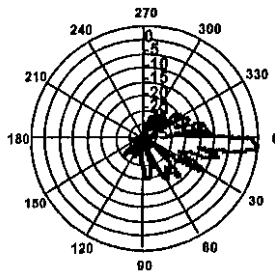
Diversity Master™  
GEN3XPOL™  
VARI-TILT®

- Three dual-pole antennas, each with independent field adjustable beam tilt
- Allows six carriers without transmit combining losses
- Excellent gain in small, attractive package
- Excellent upper side lobe suppression

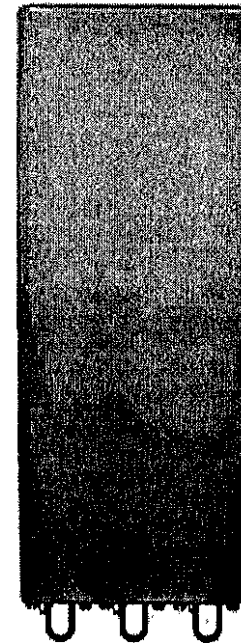
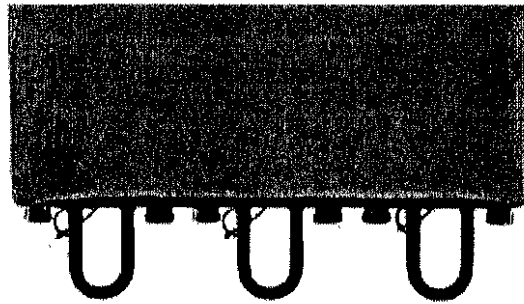
650



Azimuth 1910 MHz (Tilt=4)



Vertical 1910 MHz (Tilt=4)



**ELECTRICAL**

Frequency (MHz):	1850-1990
Polarization:	+45°/-45°
Gain (dBd/dBi):	14.9/17
Azimuth BW:	65°
Elevation BW:	6.5°
Beam Tilt:	1-8°
USLS* (dB):	>14
Front-to-Back Ratio* (dB):	30
Isolation (dB):	>30
VSWR:	<1.4:1
IM Suppression - Two 20 Watt Carriers:	-145 dBc
Impedance:	50 Ohms
Max Input Power:	250 Watts
Lightning Protection:	DC Ground

**MECHANICAL**

Weight:	36 lbs (16.3 kg)
Dimensions (LxWxD):	51.5 X 20.5 X 3.5 in (1308 X 521 X 89 mm)
Max. Wind Area:	3.77 ft² (0.35 m²)
Max. Wind Load (@ 100mph):	205 lbf (912 N)
Max. Wind Speed:	125 mph (201 km/h)
Radiator Material:	Aluminum
Reflector Material:	Aluminum
Radome Material:	Polycarbonate, UV Resistant
Mounting Hardware Material:	Galvanized Steel
Connector Type:	7-16 DIN - Female (Bottom)
Color:	Light Gray
Standard Mounting Hardware:	DB380 Pipe Mount Kit, Included
Downtilt Mounting Hardware:	DB5083, optional



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8635 Stemmons Freeway  
Dallas, Texas U.S.A 75247-3701  
Tel: 214.631.0310

Fax: 214.631.4706  
Toll Free Tel: 1.800.676.5342  
Fax: 1.800.229.4706  
www.andrew.com

Date: 3/30/2004  
\* - Indicates Typical Values

dhitech@andrew.com



# **Appendix A**

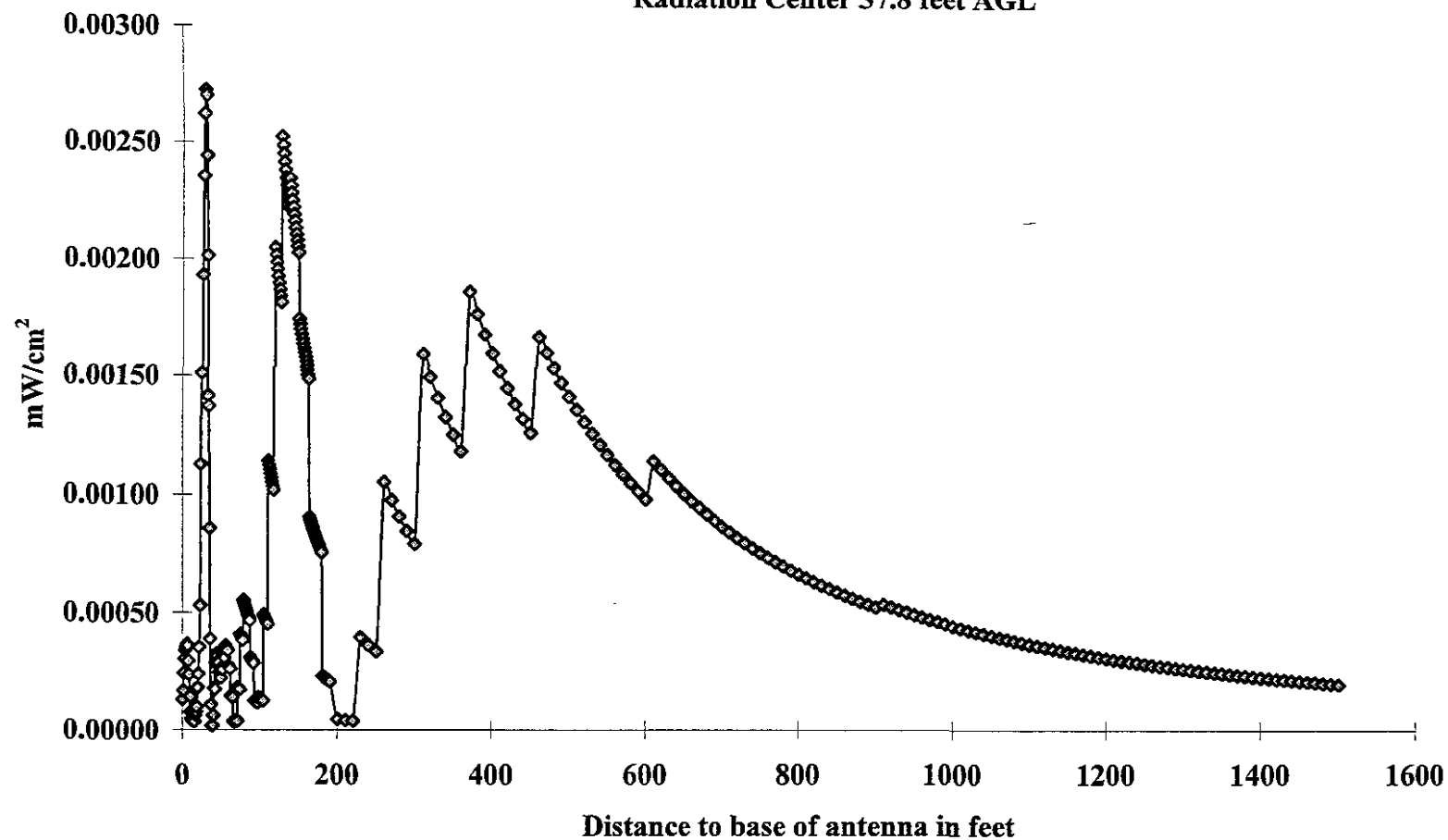
**Decibel Products Model # 932QDG65VTEM**

**Exposure Calculation 6 ft AGL**

**Rad Center 37.8 ft**

**ERP 800 Watts**

Radiation exposure levels AGL= 6 feet  
Radiation Center 37.8 feet AGL



ARL **31.8** Max gain: **14.9**

Max exposure: **0.00272306** mW/cm<sup>2</sup>

Max ERP: **800** Ant type: DB932DG65VTEM

Feet from site: **30**

### Radiation exposure level

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
----------------------	------------------	-----------------	--------------------	--------------------	------------------	-----------------------------	-----------------------

0	90.000	-20.4	-35.3	969.26	236.0967	0.00013	0.01312
1	88.199	-19.3	-34.2	969.74	304.1515	0.00017	0.01688
2	86.401	-17.7	-32.6	971.18	439.6327	0.00024	0.02433
3	84.611	-16.7	-31.6	973.57	553.4648	0.00030	0.03048
4	82.831	-16.2	-31.1	976.90	620.9977	0.00034	0.03397
5	81.064	-16	-30.9	981.17	650.2644	0.00035	0.03526
6	79.315	-15.8	-30.7	986.37	680.9104	0.00037	0.03653
7	77.586	-15.8	-30.7	992.47	680.9104	0.00036	0.03609
8	75.879	-16.6	-31.5	999.47	566.3566	0.00030	0.02960
9	74.197	-17.5	-32.4	1007.34	460.3519	0.00024	0.02368
10	72.543	-19.6	-34.5	1016.06	283.8507	0.00014	0.01435
11	70.919	-22.3	-37.2	1025.61	152.4369	0.00008	0.00757
12	69.326	-24.2	-39.1	1035.98	98.4215	0.00005	0.00479
13	67.765	-25.1	-40	1047.13	80.0000	0.00004	0.00381
14	66.238	-25.1	-40	1059.04	80.0000	0.00004	0.00372
15	64.747	-25.1	-40	1071.68	80.0000	0.00004	0.00364
16	63.291	-25.1	-40	1085.04	80.0000	0.00004	0.00355
17	61.871	-22.4	-37.3	1099.07	148.9670	0.00006	0.00644
18	60.489	-21.5	-36.4	1113.77	183.2694	0.00008	0.00771
19	59.142	-20.3	-35.2	1129.09	241.5961	0.00010	0.00989
20	57.833	-17.5	-32.4	1145.03	460.3519	0.00018	0.01833
21	56.560	-16.2	-31.1	1161.54	620.9977	0.00024	0.02403
22	55.324	-14.4	-29.3	1178.61	939.9180	0.00035	0.03532
23	54.123	-12.5	-27.4	1196.21	1455.7607	0.00053	0.05311
24	52.958	-9.1	-24	1214.33	3184.8574	0.00113	0.11275
25	51.827	-7.7	-22.6	1232.93	4396.3270	0.00151	0.15098
26	50.730	-6.5	-21.4	1252.00	5795.4877	0.00193	0.19301
27	49.667	-5.5	-20.4	1271.51	7296.0867	0.00236	0.23558
28	48.636	-4.9	-19.8	1291.45	8377.0284	0.00262	0.26220
29	47.637	-4.6	-19.5	1311.79	8976.1476	0.00272	0.27231
30	46.668	-4.5	-19.4	1332.52	9185.2290	0.00270	0.27005
31	45.730	-4.8	-19.7	1353.61	8572.1544	0.00244	0.24423
32	44.820	-5.5	-20.4	1375.06	7296.0867	0.00201	0.20144
33	43.939	-6.9	-21.8	1396.85	5285.5476	0.00141	0.14141
34	43.085	-6.9	-21.8	1418.95	5285.5476	0.00137	0.13704
35	42.257	-8.8	-23.7	1441.37	3412.6362	0.00086	0.08575
36	41.455	-12.1	-27	1464.07	1596.2099	0.00039	0.03887
37	40.678	-17.5	-32.4	1487.05	460.3519	0.00011	0.01087

ARL **31.8** Max gain: **14.9**Max exposure: **0.00272306** mW/cm<sup>2</sup>Max ERP: **800** Ant type: DB932DG65VTEMFeet from site: **30****Radiation exposure level**

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
38	39.924	-25.1	-40	1510.30	80.0000	0.00002	0.00183
39	39.193	-25.1	-40	1533.80	80.0000	0.00002	0.00178
40	38.485	-19.6	-34.5	1557.54	283.8507	0.00006	0.00611
41	37.798	-14.8	-29.7	1581.51	857.2154	0.00018	0.01789
42	37.131	-14.8	-29.7	1605.70	857.2154	0.00017	0.01736
43	36.484	-12.5	-27.4	1630.11	1455.7607	0.00029	0.02860
44	35.857	-11.8	-26.7	1654.71	1710.3697	0.00033	0.03261
45	35.248	-11.8	-26.7	1679.51	1710.3697	0.00032	0.03165
46	34.656	-12	-26.9	1704.49	1633.3904	0.00029	0.02935
47	34.082	-12	-26.9	1729.65	1633.3904	0.00029	0.02850
48	33.524	-12.5	-27.4	1754.98	1455.7607	0.00025	0.02467
49	32.983	-12.7	-27.6	1780.47	1390.2407	0.00023	0.02289
50	32.456	-12.7	-27.6	1806.11	1390.2407	0.00022	0.02225
51	31.945	-11.8	-26.7	1831.91	1710.3697	0.00027	0.02661
52	31.447	-11.8	-26.7	1857.84	1710.3697	0.00026	0.02587
53	30.964	-10.7	-25.6	1883.91	2203.3830	0.00032	0.03241
54	30.493	-10.7	-25.6	1910.11	2203.3830	0.00032	0.03153
55	30.036	-10.7	-25.6	1936.44	2203.3830	0.00031	0.03067
56	29.590	-9.9	-24.8	1962.88	2649.0490	0.00036	0.03589
57	29.157	-9.9	-24.8	1989.45	2649.0490	0.00035	0.03494
58	28.735	-9.8	-24.7	2016.12	2710.7532	0.00035	0.03481
59	28.324	-9.8	-24.7	2042.90	2710.7532	0.00034	0.03391
60	27.924	-10.6	-25.5	2069.78	2254.7063	0.00027	0.02747
61	27.534	-10.6	-25.5	2096.76	2254.7063	0.00027	0.02677
62	27.153	-10.6	-25.5	2123.83	2254.7063	0.00026	0.02609
63	26.783	-13	-27.9	2151.00	1297.4481	0.00015	0.01464
64	26.422	-13	-27.9	2178.25	1297.4481	0.00014	0.01427
65	26.069	-13	-27.9	2205.59	1297.4481	0.00014	0.01392
66	25.726	-18.8	-33.7	2233.01	341.2636	0.00004	0.00357
67	25.390	-18.8	-33.7	2260.51	341.2636	0.00003	0.00349
68	25.063	-18.8	-33.7	2288.08	341.2636	0.00003	0.00340
69	24.744	-18	-32.9	2315.73	410.2891	0.00004	0.00399
70	24.432	-18	-32.9	2343.44	410.2891	0.00004	0.00390
71	24.127	-18	-32.9	2371.23	410.2891	0.00004	0.00381
72	23.829	-11.1	-26	2399.08	2009.5091	0.00018	0.01823
73	23.539	-11.1	-26	2426.99	2009.5091	0.00018	0.01781
74	23.255	-11.1	-26	2454.96	2009.5091	0.00017	0.01741
75	22.977	-7.3	-22.2	2483.00	4820.4767	0.00041	0.04082
76	22.705	-7.3	-22.2	2511.09	4820.4767	0.00040	0.03991
77	22.440	-7.3	-22.2	2539.23	4820.4767	0.00039	0.03903
78	22.180	-7.3	-22.2	2567.43	4820.4767	0.00038	0.03818

ARL 31.8 Max gain: 14.9

Max exposure: 0.00272306 mW/cm<sup>2</sup>

Max ERP: 800 Ant type: DB932DG65VTEM

Feet from site: 30

### Radiation exposure level

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
79	21.926	-5.6	-20.5	2595.68	7130.0075	0.00055	0.05524
80	21.678	-5.6	-20.5	2623.98	7130.0075	0.00054	0.05406
81	21.435	-5.6	-20.5	2652.33	7130.0075	0.00053	0.05291
82	21.197	-5.6	-20.5	2680.72	7130.0075	0.00052	0.05179
83	20.963	-5.6	-20.5	2709.16	7130.0075	0.00051	0.05071
84	20.735	-5.6	-20.5	2737.65	7130.0075	0.00050	0.04966
85	20.512	-5.6	-20.5	2766.17	7130.0075	0.00049	0.04864
86	20.293	-5.6	-20.5	2794.74	7130.0075	0.00048	0.04765
87	20.078	-5.6	-20.5	2823.35	7130.0075	0.00047	0.04669
88	19.868	-7.3	-22.2	2852.00	4820.4767	0.00031	0.03094
89	19.662	-7.3	-22.2	2880.68	4820.4767	0.00030	0.03032
90	19.460	-7.3	-22.2	2909.40	4820.4767	0.00030	0.02973
91	19.262	-7.3	-22.2	2938.16	4820.4767	0.00029	0.02915
92	19.068	-7.3	-22.2	2966.95	4820.4767	0.00029	0.02859
93	18.877	-10.8	-25.7	2995.77	2153.2278	0.00013	0.01252
94	18.691	-10.8	-25.7	3024.63	2153.2278	0.00012	0.01229
95	18.507	-10.8	-25.7	3053.52	2153.2278	0.00012	0.01206
96	18.327	-10.8	-25.7	3082.44	2153.2278	0.00012	0.01183
97	18.151	-10.8	-25.7	3111.39	2153.2278	0.00012	0.01161
98	17.978	-9.9	-24.8	3140.36	2649.0490	0.00014	0.01402
99	17.808	-9.9	-24.8	3169.37	2649.0490	0.00014	0.01377
100	17.641	-9.9	-24.8	3198.40	2649.0490	0.00014	0.01352
101	17.477	-9.9	-24.8	3227.46	2649.0490	0.00013	0.01328
102	17.316	-9.9	-24.8	3256.55	2649.0490	0.00013	0.01304
103	17.157	-9.9	-24.8	3285.66	2649.0490	0.00013	0.01281
104	17.002	-9.9	-24.8	3314.79	2649.0490	0.00013	0.01259
105	16.849	-3.9	-18.8	3343.95	10546.0539	0.00049	0.04923
106	16.699	-3.9	-18.8	3373.14	10546.0539	0.00048	0.04839
107	16.552	-3.9	-18.8	3402.34	10546.0539	0.00048	0.04756
108	16.407	-3.9	-18.8	3431.57	10546.0539	0.00047	0.04675
109	16.264	-3.9	-18.8	3460.82	10546.0539	0.00046	0.04596
110	16.124	-3.9	-18.8	3490.09	10546.0539	0.00045	0.04520
111	15.986	0.2	-14.7	3519.38	27107.5325	0.00114	0.11425
112	15.851	0.2	-14.7	3548.69	27107.5325	0.00112	0.11237
113	15.717	0.2	-14.7	3578.02	27107.5325	0.00111	0.11053
114	15.586	0.2	-14.7	3607.37	27107.5325	0.00109	0.10874
115	15.457	0.2	-14.7	3636.74	27107.5325	0.00107	0.10699
116	15.330	0.2	-14.7	3666.13	27107.5325	0.00105	0.10529
117	15.205	0.2	-14.7	3695.53	27107.5325	0.00104	0.10362
118	15.082	0.2	-14.7	3724.96	27107.5325	0.00102	0.10199
119	14.961	3.3	-11.6	3754.39	55346.4777	0.00205	0.20498

ARL 31.8 Max gain: 14.9

Max exposure: 0.00272306 mW/cm<sup>2</sup>

Max ERP: 800 Ant type: DB932DG65VTEM

Feet from site: 30

**Radiation exposure level**

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
120	14.842	3.3	-11.6	3783.85	55346.4777	0.00202	0.20180
121	14.725	3.3	-11.6	3813.32	55346.4777	0.00199	0.19869
122	14.609	3.3	-11.6	3842.81	55346.4777	0.00196	0.19565
123	14.496	3.3	-11.6	3872.31	55346.4777	0.00193	0.19268
124	14.384	3.3	-11.6	3901.83	55346.4777	0.00190	0.18978
125	14.273	3.3	-11.6	3931.36	55346.4777	0.00187	0.18694
126	14.165	3.3	-11.6	3960.90	55346.4777	0.00184	0.18416
127	14.057	3.3	-11.6	3990.46	55346.4777	0.00181	0.18144
128	13.952	4.8	-10.1	4020.04	78178.9777	0.00253	0.25254
129	13.848	4.8	-10.1	4049.63	78178.9777	0.00249	0.24886
130	13.746	4.8	-10.1	4079.23	78178.9777	0.00245	0.24526
131	13.645	4.8	-10.1	4108.84	78178.9777	0.00242	0.24174
132	13.545	4.8	-10.1	4138.47	78178.9777	0.00238	0.23829
133	13.447	4.8	-10.1	4168.10	78178.9777	0.00235	0.23491
134	13.350	4.8	-10.1	4197.75	78178.9777	0.00232	0.23161
135	13.255	4.8	-10.1	4227.42	78178.9777	0.00228	0.22837
136	13.161	4.8	-10.1	4257.09	78178.9777	0.00225	0.22519
137	13.068	4.8	-10.1	4286.78	78178.9777	0.00222	0.22209
138	12.976	5.1	-9.8	4316.47	83770.2838	0.00235	0.23471
139	12.886	5.1	-9.8	4346.18	83770.2838	0.00232	0.23151
140	12.797	5.1	-9.8	4375.90	83770.2838	0.00228	0.22838
141	12.709	5.1	-9.8	4405.62	83770.2838	0.00225	0.22530
142	12.623	5.1	-9.8	4435.36	83770.2838	0.00222	0.22229
143	12.537	5.1	-9.8	4465.11	83770.2838	0.00219	0.21934
144	12.453	5.1	-9.8	4494.87	83770.2838	0.00216	0.21645
145	12.370	5.1	-9.8	4524.64	83770.2838	0.00214	0.21361
146	12.288	5.1	-9.8	4554.41	83770.2838	0.00211	0.21082
147	12.207	5.1	-9.8	4584.20	83770.2838	0.00208	0.20809
148	12.126	5.1	-9.8	4614.00	83770.2838	0.00205	0.20541
149	12.047	5.1	-9.8	4643.80	83770.2838	0.00203	0.20279
150	11.969	4.5	-10.4	4673.61	72960.8671	0.00174	0.17437
151	11.892	4.5	-10.4	4703.43	72960.8671	0.00172	0.17217
152	11.816	4.5	-10.4	4733.26	72960.8671	0.00170	0.17001
153	11.741	4.5	-10.4	4763.10	72960.8671	0.00168	0.16788
154	11.667	4.5	-10.4	4792.95	72960.8671	0.00166	0.16580
155	11.594	4.5	-10.4	4822.80	72960.8671	0.00164	0.16375
156	11.522	4.5	-10.4	4852.66	72960.8671	0.00162	0.16174
157	11.450	4.5	-10.4	4882.53	72960.8671	0.00160	0.15977
158	11.380	4.5	-10.4	4912.41	72960.8671	0.00158	0.15783
159	11.310	4.5	-10.4	4942.30	72960.8671	0.00156	0.15593
160	11.241	4.5	-10.4	4972.19	72960.8671	0.00154	0.15406

ARL 31.8

Max gain: 14.9

Max exposure: 0.00272306

mW/cm<sup>2</sup>

Max ERP: 800

Ant type: DB932DG65VTEM

Feet from site:

30

**Radiation exposure level**

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
161	11.173	4.5	-10.4	5002.09	72960.8671	0.00152	0.15222
162	11.106	4.5	-10.4	5031.99	72960.8671	0.00150	0.15042
163	11.039	4.5	-10.4	5061.90	72960.8671	0.00149	0.14865
164	10.974	2.4	-12.5	5091.82	44987.3060	0.00091	0.09058
165	10.909	2.4	-12.5	5121.75	44987.3060	0.00090	0.08953
166	10.845	2.4	-12.5	5151.68	44987.3060	0.00088	0.08849
167	10.781	2.4	-12.5	5181.62	44987.3060	0.00087	0.08747
168	10.718	2.4	-12.5	5211.57	44987.3060	0.00086	0.08647
169	10.656	2.4	-12.5	5241.52	44987.3060	0.00085	0.08548
170	10.595	2.4	-12.5	5271.48	44987.3060	0.00085	0.08451
171	10.535	2.4	-12.5	5301.44	44987.3060	0.00084	0.08356
172	10.475	2.4	-12.5	5331.41	44987.3060	0.00083	0.08262
173	10.416	2.4	-12.5	5361.38	44987.3060	0.00082	0.08170
174	10.357	2.4	-12.5	5391.36	44987.3060	0.00081	0.08080
175	10.299	2.4	-12.5	5421.35	44987.3060	0.00080	0.07990
176	10.242	2.4	-12.5	5451.34	44987.3060	0.00079	0.07903
177	10.185	2.4	-12.5	5481.34	44987.3060	0.00078	0.07816
178	10.129	2.4	-12.5	5511.34	44987.3060	0.00077	0.07732
179	10.074	2.4	-12.5	5541.35	44987.3060	0.00076	0.07648
180	10.019	2.4	-12.5	5571.36	44987.3060	0.00076	0.07566
181	9.965	-2.7	-17.6	5601.38	13902.4066	0.00023	0.02313
182	9.911	-2.7	-17.6	5631.40	13902.4066	0.00023	0.02289
183	9.858	-2.7	-17.6	5661.43	13902.4066	0.00023	0.02264
184	9.805	-2.7	-17.6	5691.46	13902.4066	0.00022	0.02240
185	9.753	-2.7	-17.6	5721.50	13902.4066	0.00022	0.02217
186	9.702	-2.7	-17.6	5751.54	13902.4066	0.00022	0.02194
187	9.651	-2.7	-17.6	5781.59	13902.4066	0.00022	0.02171
188	9.601	-2.7	-17.6	5811.64	13902.4066	0.00021	0.02149
189	9.551	-2.7	-17.6	5841.69	13902.4066	0.00021	0.02127
190	9.501	-2.7	-17.6	5871.75	13902.4066	0.00021	0.02105
191	9.453	-2.7	-17.6	5901.82	13902.4066	0.00021	0.02084
201	8.990	-8.9	-23.8	6202.68	3334.9551	0.00005	0.00453
211	8.571	-8.9	-23.8	6503.91	3334.9551	0.00004	0.00412
221	8.188	-8.9	-23.8	6805.46	3334.9551	0.00004	0.00376
231	7.838	1.7	-13.2	7107.28	38290.4074	0.00040	0.03957
241	7.517	1.7	-13.2	7409.35	38290.4074	0.00036	0.03641
251	7.221	1.7	-13.2	7711.64	38290.4074	0.00034	0.03361
261	6.947	7	-7.9	8014.11	129744.8078	0.00105	0.10546
271	6.693	7	-7.9	8316.75	129744.8078	0.00098	0.09792
281	6.457	7	-7.9	8619.55	129744.8078	0.00091	0.09116
291	6.236	7	-7.9	8922.48	129744.8078	0.00085	0.08508

ARL 31.8 Max gain: 14.9

Max exposure: 0.00272306 mW/cm<sup>2</sup>

Max ERP: 800 Ant type: DB932DG65VTEM

Feet from site: 30

**Radiation exposure level**

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
301	6.031	7	-7.9	9225.54	129744.8078	0.00080	0.07958
311	5.838	10.3	-4.6	9528.71	277389.4804	0.00159	0.15948
321	5.658	10.3	-4.6	9831.97	277389.4804	0.00150	0.14980
331	5.488	10.3	-4.6	10135.33	277389.4804	0.00141	0.14096
341	5.328	10.3	-4.6	10438.78	277389.4804	0.00133	0.13289
351	5.177	10.3	-4.6	10742.30	277389.4804	0.00125	0.12548
361	5.034	10.3	-4.6	11045.89	277389.4804	0.00119	0.11868
371	4.899	12.5	-2.4	11349.54	460351.9499	0.00187	0.18656
381	4.771	12.5	-2.4	11653.26	460351.9499	0.00177	0.17697
391	4.650	12.5	-2.4	11957.03	460351.9499	0.00168	0.16809
401	4.534	12.5	-2.4	12260.85	460351.9499	0.00160	0.15986
411	4.424	12.5	-2.4	12564.72	460351.9499	0.00152	0.15222
421	4.320	12.5	-2.4	12868.63	460351.9499	0.00145	0.14512
431	4.220	12.5	-2.4	13172.59	460351.9499	0.00138	0.13850
441	4.124	12.5	-2.4	13476.58	460351.9499	0.00132	0.13232
451	4.033	12.5	-2.4	13780.61	460351.9499	0.00127	0.12655
461	3.946	13.9	-1	14084.67	635462.5878	0.00167	0.16722
471	3.863	13.9	-1	14388.76	635462.5878	0.00160	0.16023
481	3.782	13.9	-1	14692.89	635462.5878	0.00154	0.15366
491	3.706	13.9	-1	14997.03	635462.5878	0.00147	0.14749
501	3.632	13.9	-1	15301.21	635462.5878	0.00142	0.14169
511	3.561	13.9	-1	15605.41	635462.5878	0.00136	0.13622
521	3.493	13.9	-1	15909.63	635462.5878	0.00131	0.13106
531	3.427	13.9	-1	16213.88	635462.5878	0.00126	0.12619
541	3.364	13.9	-1	16518.14	635462.5878	0.00122	0.12158
551	3.303	13.9	-1	16822.43	635462.5878	0.00117	0.11722
561	3.244	13.9	-1	17126.73	635462.5878	0.00113	0.11309
571	3.188	13.9	-1	17431.05	635462.5878	0.00109	0.10918
581	3.133	13.9	-1	17735.39	635462.5878	0.00105	0.10546
591	3.080	13.9	-1	18039.74	635462.5878	0.00102	0.10194
601	3.029	13.9	-1	18344.10	635462.5878	0.00099	0.09858
611	2.979	14.7	-0.2	18648.49	763994.0688	0.00115	0.11468
621	2.931	14.7	-0.2	18952.88	763994.0688	0.00111	0.11103
631	2.885	14.7	-0.2	19257.29	763994.0688	0.00108	0.10755
641	2.840	14.7	-0.2	19561.71	763994.0688	0.00104	0.10422
651	2.797	14.7	-0.2	19866.14	763994.0688	0.00101	0.10105
661	2.754	14.7	-0.2	20170.58	763994.0688	0.00098	0.09803
671	2.713	14.7	-0.2	20475.03	763994.0688	0.00095	0.09513
681	2.674	14.7	-0.2	20779.50	763994.0688	0.00092	0.09237
691	2.635	14.7	-0.2	21083.97	763994.0688	0.00090	0.08972
701	2.597	14.7	-0.2	21388.45	763994.0688	0.00087	0.08718



ARL 31.8 Max gain: 14.9

Max exposure: 0.00272306 mW/cm<sup>2</sup>

Max ERP: 800 Ant type: DB932DG65VTEM

Feet from site: 30

### Radiation exposure level

Feet to Ant. base	Depress angle	Antenna gain	dB from max ERP	Prop dist in cm	Act ERP in mW	Level mW/cm <sup>2</sup>	Percent of FCC STD
711	2.561	14.7	-0.2	21692.94	763994.0688	0.00085	0.08475
721	2.525	14.7	-0.2	21997.44	763994.0688	0.00082	0.08242
731	2.491	14.7	-0.2	22301.95	763994.0688	0.00080	0.08019
741	2.457	14.7	-0.2	22606.47	763994.0688	0.00078	0.07804
751	2.425	14.7	-0.2	22910.99	763994.0688	0.00076	0.07598
761	2.393	14.7	-0.2	23215.52	763994.0688	0.00074	0.07400
771	2.362	14.7	-0.2	23520.06	763994.0688	0.00072	0.07210
781	2.332	14.7	-0.2	23824.60	763994.0688	0.00070	0.07026
791	2.302	14.7	-0.2	24129.16	763994.0688	0.00069	0.06850
801	2.273	14.7	-0.2	24433.71	763994.0688	0.00067	0.06680
811	2.245	14.7	-0.2	24738.28	763994.0688	0.00065	0.06517
821	2.218	14.7	-0.2	25042.84	763994.0688	0.00064	0.06359
831	2.191	14.7	-0.2	25347.42	763994.0688	0.00062	0.06207
841	2.165	14.7	-0.2	25652.00	763994.0688	0.00061	0.06061
851	2.140	14.7	-0.2	25956.58	763994.0688	0.00059	0.05920
861	2.115	14.7	-0.2	26261.17	763994.0688	0.00058	0.05783
871	2.091	14.7	-0.2	26565.77	763994.0688	0.00057	0.05651
881	2.067	14.7	-0.2	26870.37	763994.0688	0.00055	0.05524
891	2.044	14.7	-0.2	27174.97	763994.0688	0.00054	0.05401
901	2.021	14.7	-0.2	27479.58	763994.0688	0.00053	0.05282
911	1.999	14.9	0	27784.19	800000.0000	0.00054	0.05410
921	1.978	14.9	0	28088.81	800000.0000	0.00053	0.05293
931	1.956	14.9	0	28393.43	800000.0000	0.00052	0.05180
941	1.936	14.9	0	28698.05	800000.0000	0.00051	0.05071
951	1.915	14.9	0	29002.68	800000.0000	0.00050	0.04965
961	1.895	14.9	0	29307.31	800000.0000	0.00049	0.04862
971	1.876	14.9	0	29611.95	800000.0000	0.00048	0.04763
981	1.857	14.9	0	29916.59	800000.0000	0.00047	0.04666
991	1.838	14.9	0	30221.23	800000.0000	0.00046	0.04573
1001	1.820	14.9	0	30525.87	800000.0000	0.00045	0.04482
1011	1.802	14.9	0	30830.52	800000.0000	0.00044	0.04394
1021	1.784	14.9	0	31135.17	800000.0000	0.00043	0.04308
1031	1.767	14.9	0	31439.82	800000.0000	0.00042	0.04225
1041	1.750	14.9	0	31744.48	800000.0000	0.00041	0.04144
1051	1.733	14.9	0	32049.14	800000.0000	0.00041	0.04066
1061	1.717	14.9	0	32353.80	800000.0000	0.00040	0.03990
1071	1.701	14.9	0	32658.47	800000.0000	0.00039	0.03916
1081	1.685	14.9	0	32963.13	800000.0000	0.00038	0.03844
1091	1.670	14.9	0	33267.80	800000.0000	0.00038	0.03773
1101	1.654	14.9	0	33572.47	800000.0000	0.00037	0.03705
1111	1.640	14.9	0	33877.15	800000.0000	0.00036	0.03639

## STATEMENT OF EXPERIENCE

Jerrold Talmadge Bushberg, Ph.D., DABMP, DABSNM  
(916) 734-5620 jtbushberg@ucdavis.edu

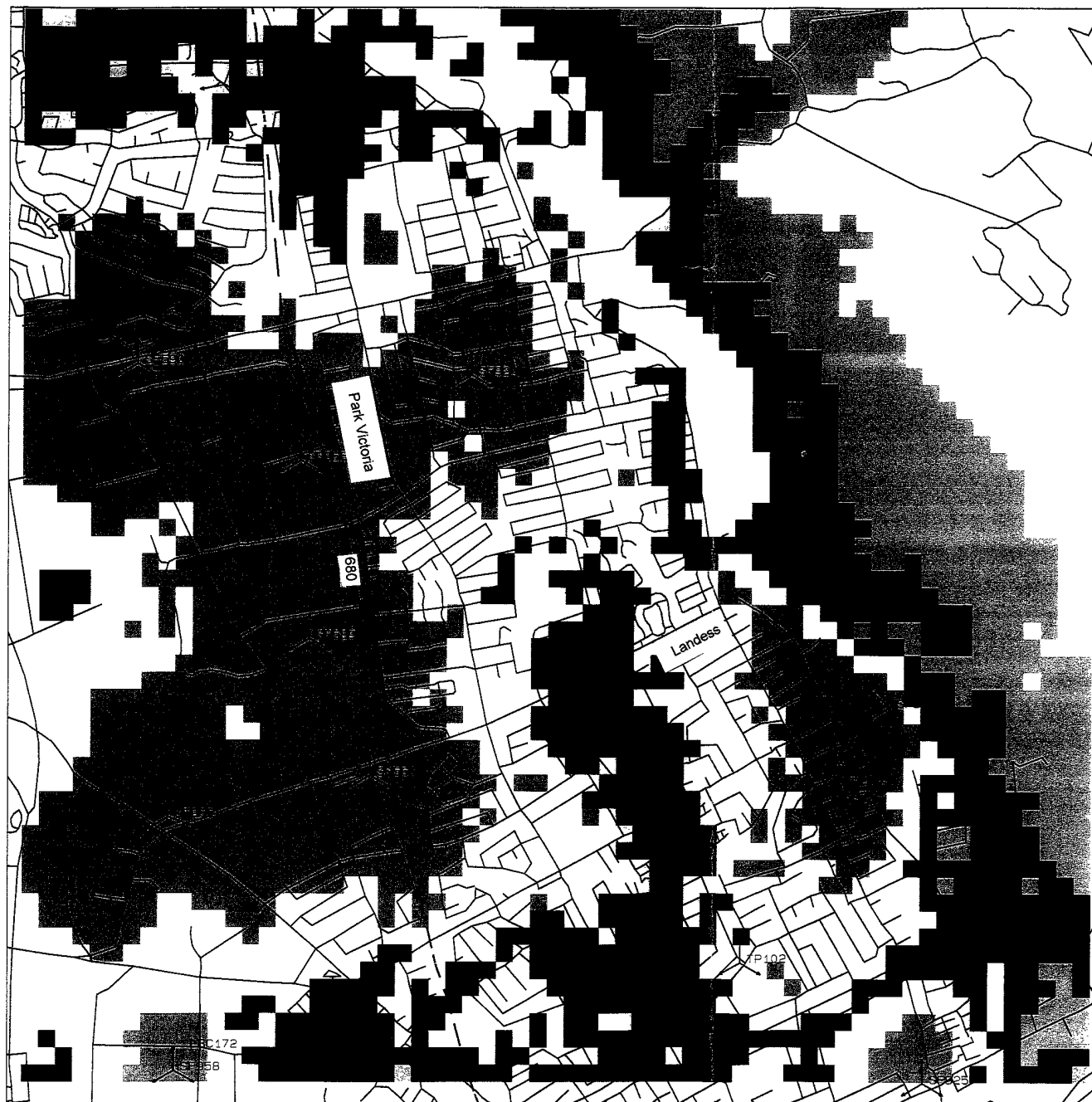
Dr. Jerrold Bushberg has performed health and safety analysis for RF transmissions systems since 1978 and is an expert in both health physics and medical physics. He is currently employed at the University of California at Davis as Director of Health Physics Programs which includes the campus, medical center and 16 offsite research field stations throughout California. The UCD Health Physics program is the second largest non-federal program in the state. In addition, he also holds an appointment as a Clinical Professor of Radiology, at the UC Davis School of Medicine with primary responsibility for medical postgraduate courses in medical physics, radiation (ionizing and non-ionizing) protection, and radiation biology. In addition, Dr. Bushberg has extensive experience and lectures on the science of Risk Assessment and on Effective Risk Communication in the public sector.

Dr. Bushberg's doctoral dissertation at Purdue University was on various aspects of the biological effects of microwave radiation. He has maintained a strong professional interest in this subject and has served as consultant or appeared as an expert witness on this subject to a wide variety of organizations/institutions including, local governments, school districts, city planning departments, telecommunications companies, the California Public Utilities Commission, ABC 20/20, and the U.S. Congress. In addition, his consultation services have included detailed computer based modeling of RF exposures as well as on-site safety inspections and RF field measurements of numerous wireless transmissions facility in order to determine their compliance with FCC safety regulations.

Dr. Bushberg is a member of the main scientific body of International Committee on Electromagnetic Safety (ICES) which reviews and evaluates the scientific literature on the biological effects of non-ionizing electromagnetic radiation and establishes exposure standards. He also serves on the ICES Risk Assessment Working Group that is responsible for evaluating and characterizing the risks of non-ionizing electromagnetic radiation. Dr. Bushberg was appointed and is serving as a member of the main scientific council of the National Council on Radiation Protection and Measurement's (NCRP) as well as it's scientific advisory committee on Radiation Protection in Medicine. The NCRP is the nation's preeminent scientific radiation protection organization, chartered by Congress to evaluate and provide expert consultation on a wide variety of radiological health issues. Dr. Bushberg was also appointed to the International Engineering in Medicine and Biology Society Committee on Man and Radiation (COMAR) which has as its primary area of interest the biological effects of non-ionizing electromagnetic energy, examining and interpreting the biological effects, and presenting its findings in an authoritative and professional manner. Dr. Bushberg is also a member of a six person U.S. expert delegation to the international scientific community on Scientific and Technical Issues for Mobile Communication Systems established by the Federal Communications Commission.

Dr. Bushberg's position as Director of Health Physics Programs at UC Davis is particularly pertinent. The scientific discipline of Health Physics is devoted to radiation protection, which, among other things, involves providing analysis of radiation exposure conditions, biological effects research, regulations and standards as well as recommendations regarding the use and safety of ionizing and non-ionizing radiation. Dr. Bushberg is the senior scientist/health physicist at the University of California, Davis for which the evaluation of recent scientific literature and radiation safety standards is an integral part of his position.

Dr. Bushberg received both a Masters of Science and Ph.D. from the Department of Bionucleonics at Purdue University. Dr. Bushberg is certified by several national professional boards with specific subspecialty certification in radiation protection and medical physics. Prior to coming to the University of California, Davis, Dr. Bushberg was on the faculty of Yale University School of Medicine.



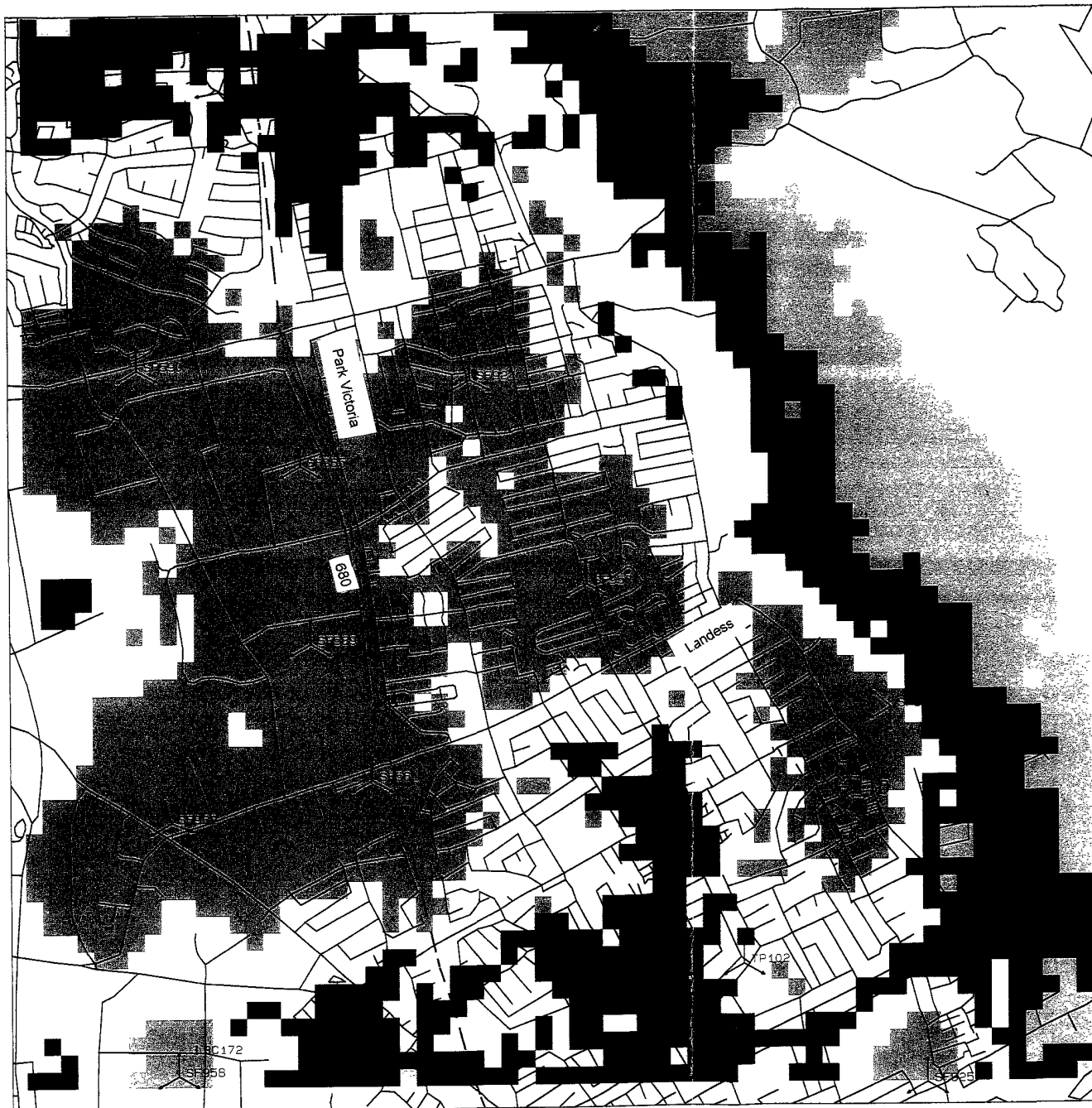
Planet DMS V3.1  
Metapath Software International Inc  
Wed Apr 14 18:10:46 2004

Centre Long: 121 52'17.56"W Lat: 37 25'26.92"N  
Scale: 1:21682  
— Neighborhood\_Road  
-- Primary\_Road  
... Secondary\_Road

Coverage  
■ NO COVERAGE Level: -105dBm  
■ POOR COVERAGE Level: -95dBm  
■ MODERATE COVERAGE Level: -85dBm  
■ GOOD COVERAGE Level: -75dBm

Cingular Site SF-957-01  
Rancho Junior High School  
1915 Yellowstone, Milpitas

Existing Conditions



Planet DMS V3.1  
Metapath Software International Inc  
Wed Apr 14 18:14:03 2004

Centre Long: 121 52' 17.56"W Lat: 37 25' 26.92"N  
Scale: 1: 21682  
— Neighborhood\_Road  
-- Primary\_Road  
Secondary\_Road

Coverage  
NO COVERAGE Level: -105dBm  
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With Proposed Site SF-957-01